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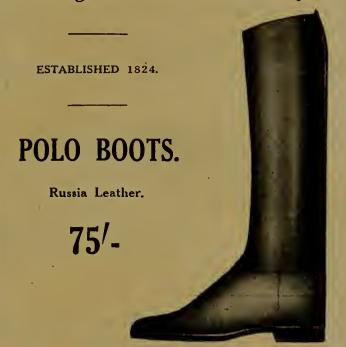
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PHYSICAL TRAINING

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PHYSICAL TRAINING

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SWEDISH EXERCISES, GAMES, SWIMMING, DIVING, LIFE-SAVING

Written by an Officer of the Regular Army

AND EDITED BY

E. JOHN SOLANO

LONDON JOHN MURRAY, ALBEMARLE STREET, W. 1913 - 96 70-

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THIS BOOK IS DEDICATED TO

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PREFACE

The Junior and Senior Course Manuals of this series are companion volumes. As the best results are obtained from physical training if it is begun early in youth, the Junior Course covers the instruction of boys from seven to twelve years of age. This preliminary phase of training lays the foundation for the Senior Course, which in turn leads up to the physical training of the soldier in the Army and of adults generally through a gradually progressive course of instruction for youths of from twelve to eighteen years of age in schools, cadet corps, and in general. The instruction contained in these volumes, with necessary modifications, will serve for the training of both sexes within the agelimits specified.

The Senior Course bridges the gap at present existing in the national system of physical training between the instruction given in the Elementary Schools and that in force in the Navy and Army, by a scheme of training consistent in principle and method with this instruction. It further fulfils an extremely important function in providing a progressive scheme for carrying on the physical training of both sexes throughout the years of adolescence after the

Elementary School age of thirteen or fourteen, when it is now prematurely arrested among the mass of the British people.* The subject of Athletic Sports, with certain introductory matter, is confined to the Senior Course, while Games are dealt with in the Junior Course only. The chapters on Swimming, Diving, and Life-saving, however, are identical in the two Manuals, and will serve for the training of youths and adults of both sexes.

While the scheme of instruction contained in this book and its companion volume is consistent in principle and method with that laid down in the Manuals of the Navy, Army, and Board of Education, and carefully adapted for its special purposes, the exercises are chiefly taken from or based upon those in the Army Manual of Physical Training. This scheme may be described as the more or less elastic framework. Even if it were not undesirable to do so for the reason stated on page 30, it would be impossible in a cheap small handbook to lay down a rigid and detailed scheme of exercises for the whole eleven years covered by the Junior and Senior Courses. It is intended that instructors shall amplify the tables in this book with suitable exercises taken from the Army and other official Manuals, and use their judgment in adapting the training laid down in it to suit the special needs of pupils and the varying conditions under which classes may be trained.

The Editor desires to express his thanks and due acknowledgments to the Military Authorities and to His Majesty's Stationery Office for permission to reproduce illustrations

^{*} The British system of Education is at present under consideration with a view to further legislation.

and extracts from the Army Manual of Physical Training in this book, by which the task of ensuring the necessary consistency between the two volumes has been facilitated. It is intended to keep each edition of this book abreast of the latest developments in the science of physical training and the changes made from time to time in the Army Manual. Each volume can be kept up-to-date constantly by noting any amendments to the Army Manual which may at any time be made in Army Orders. These amendments will be applicable to this book so far as they concern the instruction contained in it.

E. JOHN SOLANO.

London,
April, 1913.



ERRATA

Fig. 29, p. 81, illustrates forward lying on bench only, not on ground. This correction applies also to pp. xviii, 170, 48, 64, 66, 68, 70.

Page 92, para. 2.—The Bell-man, line 2, for "grasp" read "group."



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PHYSICAL TRAINING

PART I

PHYSICAL TRAINING

CHAPTER I

Introduction

The Value of Physical Training.—It is impossible to exaggerate the value of a properly organised system of physical training to a nation, especially in the case of its youth of both sexes. The conditions of civilised life react prejudicially upon the physique in a number of ways. In particular, the specialisation and limitation of muscular activities which it involves tend to develop the body unequally through what may be termed the special strains of habit and occupation. The activities of the body as a whole are not usually brought into play by the daily occupations of civilised men, but, instead a strain is thrown on parts of it by certain actions constantly repeated or an attitude habitually assumed in work performed at desks and in fields or factories.

The factors which combine to bring about the deplorable results of physical deterioration are far too numerous and closely inter-related to consider separately, nor is the subject in the scope of this book, even if space were available. There is no doubt, however, that the premature arrest of physical training among the youth of a nation *

^{*} At the present time (1913) in Great Britain general physical training on systematic principles ceases after the age of thirteen or fourteen in the Elementary Schools.

and its subsequent neglect is one of the chief causes of poor physique and ill health, together with the numberless evils which these conditions create. The consequences of these evils are widespread in adverse influences upon the vigour and vitality of the race, for the relation between the war-power and the industrial-power of a nation and the physique of its people is direct and intimate. The wealth and power of nations, together with their influence upon the world, depend in the end upon the health and strength of individual citizens.

The true foundation and one of the essential principles of national health and strength is a properly organised system of physical training. To be really efficacious systematic training must begin early in life, preferably at seven or eight years of age, and be continued progressively without serious interruption throughout adolescence until at least seventeen or eighteen years of age. It is during this period of growth and general development when the mind is receptive and the body plastic that the best results of both mental and physical training can be obtained.

Apart from the benefit which the brain derives from a healthy body, the development of physique is known to be an important factor in developing the mental powers and character. Physical training, in fact, is an essential part of general education, and it is not possible to get the best results from the development of the mind if that of the body is neglected. For this reason the systematic physical training of both sexes throughout adolescence should be enforced as a fundamental principle of any practical national system of education.

The Instructor.—The actual value of physical training depends to a great extent upon the instructor. The best results can only be obtained from it if the training is carried out under the supervision of a skilled instructor, otherwise not only will much of its benefit be lost, but in

some cases actual harm to pupils may result. Physical training, like other sciences, requires skill in practical application. As it deals with the delicate mechanism of the human body, the interference of ignorant or irresponsible agents should at all costs be avoided. Such agents tend in the application of any science to undesirable or disastrous results. The services of a skilled instructor are absolutely essential in connection with the training laid down in this Manual for these reasons, and also because much is left in the method of applying it to his judgment.

Medical Examination.—Every boy should, if possible, be examined by a doctor before he commences his physical training, irrespective of the agc at which it begins. If necessary the instructor must be informed of any material fact regarding his condition, and take it into account in connection with his instruction. The value of all properly regulated, scientifically applied physical training lies firstly in its preventive and corrective or remedial effects upon the body, and secondly in the careful avoidance of undue strain upon any of its parts or organs. Exercises which result in exhaustion will do more harm than good, and training must be carried out throughout on the principle of continuous and very gradual progression.

The terms preventive and corrective are used in connection with physical training in relation to any bodily faults or weakness peculiar to individuals, and the general influence upon young and growing boys of bad habits of carriage when walking or sitting, together with the effect of positions ordinarily assumed at the school desk during lessons, all of which may ultimately give rise to an uncqual development of the body, and to more or less serious malformations such as flat chests, rounded or stooping shoulders, or spinal curvature, besides adversely affecting health and physique generally. The object of

physical training is not only to develop the body proportionately in all its parts, but also through special exercises to prevent or correct its faults and weakness, and the prejudicial effects upon it of habits or occupation. In many cases such exercises applied in time by competent instructors will prevent or cure physical tendencies, which, if neglected, may result in lifelong weakness or deformity.

For these reasons it is necessary that instructors should be informed by medical opinion as to the health and physical condition of each of their pupils if they are to benefit fully from their training. All properly qualified instructors are taught practical knowledge of anatomy and physiology, including the functions of the various vital organs. But it is not in their province, even if they have the time, to examine their pupils medically. On the other hand it may, in some cases, be difficult for them to draw up tables of exercises exactly suited to boys unless they understand their physical characteristics. If they are to succeed in preventing and correcting adverse physical tendencies, they must know exactly what these tendencies are. If they are to avoid throwing undue strain upon a pupil through the exercises, they must know exactly in what respect he is weak.

Athletic Sports and Games.*—Athletic sports and active games are of great importance in relation to the development of physique, and the latter are combined with regular physical exercises in the system of instruction contained in this book. Games, however, in the majority of cases are not sufficiently preventive and corrective in their effects to be useful for these important purposes, nor will they serve alone for the scientific development

^{*} Information regarding the principles and methods of training for various athletic sports and suggestions for the organisation of athletic meetings, together with a list of events suitable for such meetings, will be found in the *Physical Training Manual* (Senior Course) of this series.

of the body as a whole. The same objections apply to athletic sports generally, though these again are of great value in physical training combined with scientific exercises, especially as the work is done out of doors in fresh air. On the other hand, facilities for practising athletics regularly, such as ground, equipment, and the necessary funds and leisure, are often unavailable for the great mass of youths and men, particularly in cities. The benefits of athletics are also narrowed by the growing tendency of persons interested in them to sit and watch the performance of a few champions or professional athletes, instead of taking an active part in various sports.

Commencement of Training.—Physical training should begin with the general instruction of a child when it first attends school. If thus commenced at an early age, its object, besides being broadly educational and recreative, should be preventive rather than corrective, as the children will not have had time to contract bad habits of sitting or walking, which, if their physical training commences at a later age, often necessitate the application of corrective

exercises to counteract their effects.

It is extremely important that the physical training of children should be very gradual and progress by easy stages. It is also important that it should be continued throughout the years of growth. If it is commenced early, due care is exercised in its application, and its continuity assured, subsequent training should be rendered comparatively easy, because a good foundation will have been laid for physical development, and bad habits in carriage and other respects, which are so difficult to eradicate, should not have been contracted.

From infancy to the commencement of the school age, which may be as late as seven or eight, adequate exercise is ordinarily obtained by means of the natural instinctive movements of play. On arriving at the school age, the physical training of the young child should take the form of periodical relaxation from mental work and the cramped positions assumed at the school desk. The restlessness natural to it should be given full scope, and great freedom of movement encouraged from the start. It is unnatural for children to keep still for any length of time, and they should not be made to do so longer than is absolutely necessary.

The commencement of mental education in the school is a somewhat severe tax on children. Their physical training for this reason should be recreative in the fullest sense of the word. This requirement in the first instance is sufficiently met by the employment of organised games of a light, easy, and amusing nature, which admit of large, free, quick movements of the body and limbs, and at the same time give a fair share of exercise to all those who take part in them. The simple but definite rules of such games teach early lessons of discipline and self-control, the exercise involved trains the muscles and acts beneficially on the heart, lungs, and other organs, while the mind is interested and the brain gradually gains control over muscular movements.

By degrees certain definite ordered movements should be introduced into the training without any attempt at first to exact great accuracy of performance. Later on attention should gradually be devoted to acquiring some degree of accuracy in the performance of the essential features of the exercises without too great insistence on the minor details, while plenty of free movement and elements of interest and recreation are still introduced into them. The exercises taken during the regular lessons should become more and more controlled until in time each lesson assumes the form of a regular table conducted on the lines hereafter indicated. The recreative spirit of the training, however, should never be lost sight of,

and in all its stages interesting and amusing features should be introduced, together with exercises which promote a healthy rivalry without inducing overstrain.

Various Phases of Training.—The various phases of physical training from infancy to manhood may be de-

scribed as follows:

First Phase.—Natural voluntary movement and play.

Second Phase.—Games, with the gradual introduction of simple ordered movements, the former predominating.

Third Phase.—Regular lessons, consisting of definite but simple exercises and games, the former predomi-

nating.

Fourth Phase.—Regular lessons, consisting of definite exercises into which occasional games are introduced as a recreative feature.

There is no definite dividing line between these phases, but the work in each should be steadily progressive, and

gradually merge into the one which follows it.

The importance of progression cannot be overestimated. It is essential that this fundamental principle of all education should be kept constantly in view in the application of one of its chief branches. The question of progression in physical training may for convenience be considered under the four following heads:

- 1. Co-ordination of movement.
- 2. Strength.
- 3. Speed.
- 4. Endurance.

In the process of developing the body, progression under all these heads should be arranged more or less concurrently. They are, of course, closely inter-related, and to a great extent interdependent. In considering the subject, however, they must be dealt with separately, bearing in mind that in the practical application of physical training they must not only be considered, but applied together with the object of obtaining full and perfect de-

velopment.

1. Co-ordination of Movement.—This term implies the power of the nervous system to control and regulate the action of the muscles. Pupils most easily gain control over the larger groups of muscles which move the limbs and trunk by simple and natural movements. In the earlier physical exercises the movements should, therefore, be large, free, and simple. Exercises requiring considerable accuracy of execution, such as balancing, span-bending, and those which combine several movements of different kinds, all of which require considerable nerve-control, are

quite unsuited for beginners.

As progress is made with the larger and more simple movements, two of them may be taken alternately. Then two simple movements may be combined. Later on, those which are more easily performed quickly may be taken slowly, and some which are more easily performed slowly may be taken quickly. By degrees the easier balancing movements may be introduced, and, as control over the muscular system is gained, their difficulty may gradually be increased. In a later stage of progress, exercises which require more accuracy of execution may be introduced, at first without too great insistence upon accuracy in regard to details, but with gradually increasing attention to precision, till finally pupils are trained to perform exercises requiring a high degree of muscular control with ease and accuracy.

2. Strength.—It is a sound principle of physical training never to devote special attention to the mere development of muscular strength in any part of the body. By

systematically subjecting it as a whole to a progressive eourse of training in all its parts with a view to making it throughout as perfect an instrument as possible, the strength of the muscles will receive an adequate degree of attention, without throwing undue strain on them, or the internal organs. They will, in due course, become sufficiently strong to undertake all the work that will be required of them. Particular care must be taken to avoid unduly accelerating the progression of the training with respect to the strength required to carry out the exercises. This caution is especially important in regard to the Heaving Exercises,* in order to avoid the risk of injury through strain.

In the ease of pupils who are growing the limbs and trunk are gradually becoming larger and heavier through the process of natural growth, which throws a constantly increasing amount of work on the muscles that move the limbs and body, and thus provides, automatically, by natural means, the increased resistance necessary to develop the muscular system as it grows stronger. For this reason the repetition of the same or similar exercises with or without apparatus at different ages will to a great extent provide the requirements necessary for muscular development, without the use of additional weights such as dumb-bells. Thus the same exercise performed by growing pupils of various ages will often provide adequate benefit to all, despite the differences which exist between them in regard to size and strength,

It is often found that some exercises which require considerable expenditure of effort in the case of a man are easily performed without special effort by a boy. This is largely due to the difference in weight between the man and the boy. The same effect from a similar eause may frequently be observed in the case of boys of different

^{*} See Army Manual of Physical Training, p. 79, para. 163.

ages, and should be taken into consideration by instructors, especially in view of the fact that many older boys who have had little or no previous training may have to expend an undue amount of physical effort, even amounting to strain, to do exercises which younger boys will easily perform. These general considerations all bring the mind back to the fundamental principle which underlies the development of strength—namely, a gradually progressive training of the body as a whole, together with eare in the avoidance of undue strain upon the whole or any

part.

3. Speed.—The question of speed in relation to muscular activity is elosely connected with that of nerve-control or eo-ordination of movement. All museular movements in a greater or less degree depend upon the action of the nerves. It is an essential principle of physical training to render the muscular system sensitive and quickly responsive to the stimulus of the brain, through the nerves, with a view to developing the power of quiek movement. Training in this, as in other respects, must be earefully and strictly progressive. Children, girls and boys, as eompared with adults, owing to their lesser weight and small limbs, are by nature comparatively quick in their movements, though they are at first slower in the response of their museles to stimulus from the brain. This natural quickness should be fostered, and further developed by practising them frequently in making quiek movements. while their power of muscular response to brain stimulus should be watched earefully, and gradually improved by regular exercises which necessitate rapid response to the word of command, and through games which require swift decisions followed by immediate action.

Short bursts of rapid running, even though they result in an approach to breathlessness, besides developing speed, arc of great value in co-ordinating the action of the heart and lungs. Rapid running is at first best introduced through the medium of organised games, and may later take the form of short sprint races. After a while, a certain amount of jumping may be introduced into the rapid bursts of running. Finally, methods of negotiating various forms of obstacles having been taught in the ordinary course of training, the runs may be developed into short obstacle-races. The activity required to negotiate various obstacles as quickly as possible renders this form of exercise valuable for developing the power of quick and co-ordinate movements throughout the whole body.

4. Endurance.—The power of endurance is one of the most valuable of all the physical qualities. Its development, therefore, is essential in a comprehensive system of physical training. The foundation for training in this respect should be laid during girlhood or boyhood, but the greatest care should be taken to avoid overtaxing the powers at any time during the process. As a rule the younger the subject, the greater is the danger of overstrain. Children, girls and boys, are not adapted by nature for undertaking sustained physical efforts which tax their powers of endurance to any considerable extent, and progression in this branch of training must be especially slow.

branch of training must be especially slow.

Thus the quality of endurance, like that of strength, is best developed by a progressive and systematic training of the body as a whole, without any attempt to inure it to prolonged strains with the special object of increasing its power of resistance to fatigue. Methods which are too direct in these respects tend to defeat their aims. This fact serves to illustrate the peculiar instructional value of games as distinct from gymnastic exercises in

physical training.

Games undoubtedly develop the qualities of speed, strength, endurance, and co-ordination of muscular ac-

tivities without the danger of concentrating unduly upon the attainment of any one physical quality, or the development of a special group of muscles, apart from the comprehensive training of the body as a whole. It is for this reason that a judicious mingling of games and gymnastic exercises constitutes the best system of physical training. It must, however, be remembered that games lose their value if robbed of their recreative character or if continued long enough to occasion undue fatigue.

Gymnastic Apparatus.—In dealing with the principles of physical training, it is necessary to consider the important question of gymnastic apparatus. It is possible to carry out a certain amount of training without apparatus, but a far greater variety of work can be done and better results obtained with its help. The use of apparatus, moreover, adds greatly to the interest of instruction, and for this reason alone is of particular value in the case of children, girls and boys. The principal advantage of dispensing with it is the saving of expense. This advantage, however, is more than compensated by the better results obtained from training carried out with apparatus, which constitute a benefit out of all proportion to the very moderate expense involved by its provision and upkeep. Apparatus need neither be costly nor elaborate, and with care should last for a considerable time.

The following is a list of the apparatus necessary for carrying out the exercises contained in the tables in this Manual. It will amply suffice for obtaining the best results possible.

Double beam, Wall-bars. Swedish box-horse, Jumping standards and rope. Benches.* Vertical climbing ropes.

^{*} Ordinary school benches or forms.

The Wall-Bars are fixed to the wall, the number of stalls being regulated according to the size of the classes using the building and the wall-space available.

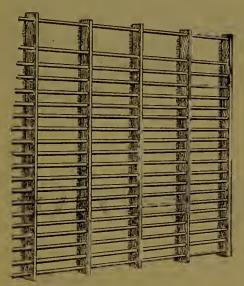


FIG. 1.—WALL-BARS.

Double Beam.—The apparatus here shown is of a very inexpensive type. The beams can be cleared out of the way when not in use, by unfixing the struts of the outer upright, or the lower beam can be removed and the upper one fixed high enough to be clear of the pupils when working on the ground. One edge of each beam is rounded for grasping with the hands, and the other edge is squared to give a better base when turned uppermost for balancing exercises. A single beam or both beams can, of course, be used if required.

This illustration shows how a series of double beams may be placed end to end across the gymnasium. They may also be arranged from wall to wall, the end uprights being fixed to opposite walls, and the central uprights constructed so as to lie in a long pit in the floor under a trap-door flush with the floor. This enables the whole apparatus to be removed, when not required for use, very rapidly. Another, and in some respects better, arrangement is to have the uprights so constructed that they can

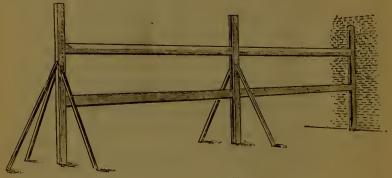


Fig. 2.—Double Beams.

be swung up towards the roof by a counterbalancing arrangement. In both these latter types the struts shown in the illustration are done away with, but the cost is

somewhat greater.

The Box-horse is best made in sections, so that it can be taken to pieces in order to reduce the height as required. It is usually sufficient to have three sections, the top and bottom both being removable. The removal of the top section should make a difference of 12 inches, and the removal of the lower a difference of 6 inches in the height of the box-horse, so that it can be used at three separate

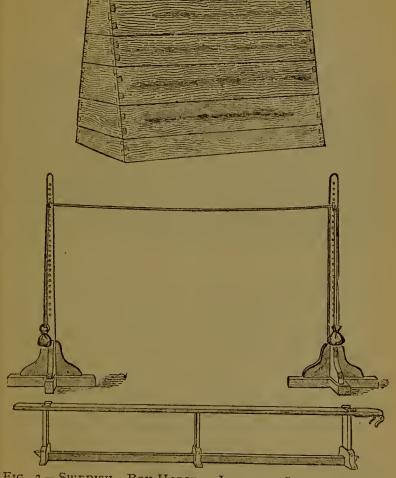


Fig. 3.—Swedish Box-Horse, Jumping Standards and Rope, Bench.

heights. It can be made in five sections if required for use at five different heights.

The jumping-standards require little explanation. The rope should have weighted bags filled with sand or shot, at the ends.

The bench here shown may be replaced by an ordinary school bench or a number of stools of about the same height.

If the above apparatus can be fitted up in a building specially designed for physical training, with plenty of floor-space, light, and good ventilation, and which in addition is kept scrupulously clean, it will, of course, be an advantage. But the apparatus described can also be used in drill-halls, drill-sheds or rooms. Most of it is movable and does not require fixing to the walls or flooring. Where any special fixing is necessary, the apparatus is by its nature quickly detachable for removal or, as in the case of the wall-bars, fixed so close to the walls that floor-space is not appreciably curtailed.

CHAPTER II

Physical Training Courses and Displays

In arranging courses for the physical training of boys and youths in schools, cadet corps, and clubs, much must necessarily be left to the discretion of the instructor, and depend upon the special circumstances of each case. It is impossible to lay down rigid rules regarding the length and number of the courses and the number of attendances in each course. Certain general principles may, however, be discussed for the guidance of commanding officers, schoolmasters, and instructors, who must apply them to the settlement of these important questions so as to obtain the best results possible under the particular conditions of each case.

The fundamental principles which underlie the arrangement of courses and the number of attendances are those of continuity and progression of training, upon which the whole science of physical development is based. The desired effect on the body cannot be obtained without continuity of instruction and regularity of attendance at lessons. This does not mean that training should never be interrupted for any reason. An occasional rest or change of occupation is wholly beneficial to those engaged in regular work of any kind, but these interruptions in the case of physical training should be regulated carefully and never prolonged unduly.

The Need of Regular Attendance.—To obtain good results attendance at lessons must be regular and uninterrupted for considerable periods of time—as for instance

throughout each of the school terms. One lesson should follow another sufficiently closely to enable pupils to remember the details of previous lessons without difficulty. This rule is also necessary to instil in them habits of discipline, control, and good carriage, as well as to ensure continuity and progression in training, and it serves, incidentally, as a rough guide to the number of lessons to be included in a course.

To ensure continuity of instruction, every pupil should attend at least three lessons in every week of each course, and, as already stated, each course should last for several weeks without a break. This principle of regular attendance lends itself readily to the arrangement of courses which provide for continuous and progressive instruction over considerable periods of time in a manner convenient for schoolboys, cadets, and youths generally, and which in addition permit necessary interruptions for rest at regular intervals. The following suggestions regarding the arrangement of courses are made as a rough guide to instructors, who may modify them in any way to suit particular circumstances.

Annual Courses.—If sixteen weeks are deducted from the total of fifty-two in the year to allow for holidays and other interruptions between different courses, a balance of thirty-six weeks will remain for what may be termed the instructional period of the year. This period may be divided into three courses of training, each extending over twelve weeks. Three lessons a week would amount to thirty-six attendances in each course and a total of one hundred and eight attendances for the three courses and the whole year. It should be possible for arrangements to be made and time spared for boys to put in these attendances for training which is of vital importance to their health, powers, and general well-being.

One hundred attendances at physical-training lessons

in each year should be regarded as the minimum necessary for good results. Even then such results will depend on pupils putting in these attendances regularly three times a week for three continuous periods of at least three months each—every attendance including instruction for at least three-quarters of an hour. This arrangement of training by annual courses, separated by regular intervals, each consisting of a given number of lessons which last a certain time, should be practicable in the case of schoolboys as well as generally, for it allows a certain latitude for neces-

sary modifications to suit special circumstances.

Extra Attendances.—There is no reason why courses should be limited to the minimum number of lessons suggested. On the contrary, instructors should arrange, if possible, to include a larger number in each course, to enable boys who may for any reason be absent from lessons, either occasionally or for short periods, to put in the minimum number of attendances. This would not be possible if courses were confined in every case to the minimum number of lessons. It should not be difficult for instructors to increase the number of lessons, because, as already stated, a large margin has been left for modifications in the arrangements suggested. Pupils, moreover, should not be allowed to regard the minimum number of attendances as sufficient, nor extra attendances as extra work. They should be made to understand that they will benefit themselves by putting in extra attendances, and they should be encouraged to do so.

It is true that the suggested minimum of three attendances a week may exceed the number at present often considered sufficient. It is necessary, therefore, to emphasise the fact that this number is considered the absolute minimum for good results upon the authority of best and most reliable opinion. As the importance of physical training becomes more widely recognised, the

inadequacy of any number of weekly attendances, short of the minimum here suggested, is certain to be realised, and the present deficiencies in this respect will then be rectified. Meantime no good purpose can be served by weakness or compromise in expressing opinion upon a principle of such vital importance to the whole community. It is to be hoped that schoolmasters, officers commanding cadet corps, instructors, and parents who are alive to its importance, will do all they can to secure the attendance of their boys at three lessons each week as the minimum necessary to ensure the continuity of in-

struction which is essential for good results.

Displays.—A Physical Training Display may be arranged either as an entertainment in itself or as one of the events in a programme of athletic sports, in which case it must be short and limited in scope. The following suggestions for arranging a display are made for the guidance of instructors. They are not intended as rigid rules upon the subject, and instructors must use their own ingenuity and judgment in modifying them with respect to details. It must be remembered that while the object of a display is to make the arrangement of exercises as attractive as possible, they must be performed with due precision, and without departing in any degree from the principles which underlie the system of instruction of which they are part.

Exercises in free movements must never be of long duration, and should be interspersed judiciously among those carried out with apparatus. In the case of ordinary instructional work, when an exercise is performed by the front and rear rank alternately, as, for example, in forward lying on benches, the rear rank should carry out some exercise of a different nature, though one which aims physically at a similar effect as that performed by the front rank. Nothing is calculated to weary onlookers

sooner than monotony and repetition in the movements they watch, which must, in no case, be prolonged unduly. The items should, therefore, all be short rather than long. On marching in at the Grand Entry and out at the Grand Exit, performers should sing patriotic songs which will add to the effect of the display and facilitate rhythm of movement.

The nature of a display, together with the number of performers, must be governed in every case by circumstances, and depend largely upon facilities, such as the building or space in which it is to be held, and the position and supply of apparatus available. Multiples of eight may be suggested as convenient for deciding the number of performers. With regard to its features free movements are preferably executed by the performers in mass, while exercises carried out with apparatus are best performed by squads of eight or more, the Number 1 of each squad acting as leader. In training a class for a display it is always well to include a larger number than

that required, to guard against the possibility of one or more members being unavoidably absent at the last moment. Preparation for a display cannot be too thorough. Every one taking part must not only be trained carefully in his own work, but must also be taught to carry it out in complete accord with that of his complete accord with the high accordance with the high a in complete accord with that of his comrades. The work of each is part of a whole, the success of which depends on all. When the number to be included in a display has been decided, together with a suitable programme, the work of instruction and preparation may be divided

up in different stages as follows:

3. Rehearsals.

Squad training in free movements and in the particular exercises to be performed with apparatus.
 Mass training in free movements.

During the final stage great attention must be paid to details of organisation, such as the best position for the performers to occupy in open order or the easiest method of manipulating apparatus. The whole performance should be rehearsed in its entirety until it is as perfect as possible. Variety, skill and accuracy of execution, the reduction of words of command by the director to a minimum, and rapidity of action in regard to drill movements generally. and manipulation of apparatus, are all essential conditions of success.

The following scheme, which can be modified as desired, is suggested as a rough guide to instructors in arranging a display for boys aged from seven to twelve years. It is suitable for small numbers and can be carried out conveniently in about an hour. The Relay Races selected should be confined to those in Chapter VI lettered for reference as follows: (b), (e) to (g) inclusive. The games as well as the other items of the programme should be rehearsed carefully to avoid delay and confusion during the display. For the Entry the performers will form up outside the space reserved for the display in one or two ranks. They will march in and once round the space. They will then march down its centre and open ranks into position for the mass exercise, the director taking up his position in front of the performers.

PROGRAMME

1. Entry.

H.f.—Feet closing. 2. L. ex.

Heels raising. 3. L. ex.

4. H. ex.

Head bending backward. H.f. F. astr.—Trunk bending sideways. 5. Lat. ex.

(a) Quick March—heels raise. 6. Mar. ex.

(b) Double Marching.

7. Relay Races.

8. Br. ex. Arms raise sideways with breathing.

9. Dor. ex. H.f.F. astr.—Trunk bending backward and forward.

10. A. ex. Arm movements, quickly, in different directions.

11. Bal. ex. F. backw. r. and grasp.—Hopping forward.

12. Game (Circle Touch Ball).

13. Quick Marching.

14. Ab. ex. Lying.—Leg raising.

15. Game (Three Deep).

16. L. ex. H.f.—Heels raising and Knee bending.

17. J. & V. (a) Downward jumping.

(b) H.f. Hl.r.—Astride jumping.

18. Br. ex.
A.b.—Head bending backward with breathing.
19. Exit.
Falling in in single rank—quick march out.

Competitions.—Although the standardisation of physical training is not desirable for many reasons, a competitive element may be introduced into displays given by rival classes or sections of a class. In such cases every member of each unit, or as many as possible, should take part in the competition so as to encourage the attainment of a high average degree of proficiency in pupils. The exercises should be chosen by each instructor for his own class, and need not necessarily be the same for both or all the competing units, and each unit should carry out the programme under its own instructor as director. Marks may be allotted by the umpire for the following points:

(a) The suitability of the exercises for the unit.

(b) The degree of proficiency with which they are performed by members of the unit as a whole.

Marks should also be deducted from or added to the totals obtained by each unit according to the proportion of its full numbers who take part in the competition.

CHAPTER III

Hygiene of Physical Training

PHYSICAL-TRAINING lessons, or in fact any vigorous exercise, should not be taken before breakfast or within an hour after a meal. With these exceptions exercise may be taken with advantage at almost any time of the day. The forenoon is a good time, but the evening, when the lesson or exercise can be finished about half an hour before the last meal of the day, has many advantages. The work of the day is then over, and the full corrective and invigorating effect of physical training can be secured, so long as neither body nor mind is too fatigued either by the day's work or the exercise taken after it is concluded.

In arranging the lesson the instructor should always take into consideration the condition of his pupils, together with the amount and nature of the work they have done during the day, and, if necessary, modify the exercises accordingly. In the case of schoolboys it is best to take the regular physical training lesson between two school lessons. It will be found particularly beneficial to take one or two simple exercises of a corrective nature just before commencing work in the schoolroom every morning and afternoon, and after any length of time spent at the school desks.

Open Air Training.—A great deal of physical training can be carried out in the open air, and whenever this is possible it should be done. But in order to obtain the best results from instruction, the use of a building of some

sort is necessary. It is easier to maintain continuity of instruction, ensure the use of apparatus, secure shelter from the elements, and enable training to be carried out after dark if the classes are held in a building. In this case it is also easier to make sure of freedom from distracting influences so that the pupils may give greater attention to the instructor in the more definitely ordered portions of the lesson.

Accommodation.—The size of the gymnasium, hall, or room should be sufficient for the class under instruction. As a guide to the minimum size it may be stated that when the class is opened out for "free standing exercises" * with the arms of the pupils stretched out sideways to the full extent, there should be at least ten to twelve feet at the end of the room where the instructor stands, and enough room at the sides to enable him and his assistants

to pass along the class.

Flooring.—The floor should consist of wood—preferably of planks well laid on joists—and it should be possible to clear it quickly of all apparatus. It should never be allowed to become slippery, or purposely made so for dancing. In this condition the floor will be extremely dangerous to pupils when performing a large proportion of exercises, and will interfere with training. It is impossible to perform many exercises properly on a slippery floor, and others of an important nature cannot even be attempted upon it without risk of accident.

Temperature and Heating.—While work is proceeding the temperature of the gymnasium should not be allowed to fall below 50° Fahr. or rise above 60° Fahr. A well-ventilated, but not draughty, room, of between 55° and 60° Fahr. is, if available, desirable. Artificial heating is necessary in cold weather, for which purpose radiators or hot-water pipes are the best. Open fire-places are unsatis-

^{*} See Army Manual of Physical Training, para. 97.

factory, as they create smoke, dirt, and dust, and do not heat effectively.

Ventilation.—If possible, the windows and ventilators, of which there should be a plentiful supply, should be about 9 ft. above the floor-level. An oblong room, with large windows running down the greater part of both side walls or along one side wall and both ends, is desirable. The gymnasium should, in any case, be well ventilated, as an adequate supply of fresh air is an absolute necessity. Draughts must be prevented, and if the outer air is at all cold, it will be advisable during exercise to open the windows and ventilators on one side of the gymnasium only—preferably the leeward side. Immediately after a lesson the windows on both sides should be opened to ventilate the room thoroughly.

Cleanliness.—Buildings and apparatus should be kept scrupulously clean and free from 'dust and dirt. The floors should not be wet-scrubbed too frequently, but when this is done they should be scrubbed by hand and dried piece by piece so that as little moisture as possible is left on the boards to dry by evaporation. When the floor is swept, which should be at least once a day and before work, some means should be adopted to prevent the dust from rising, as for instance by the use of damp

tea-leaves.

All apparatus should be dusted carefully after the floor is swept. The wooden parts may occasionally be rubbed over lightly, where necessary, with a cloth which is damp but not wet, and subsequently rubbed over again with a dry one. A little Sanitas or a small quantity of Condy's Fluid may be used in the water in which the cloth is damped. Care should be taken that dirt is not brought into the gymnasium, as for instance by muddy boots. In order to prevent this evil it is desirable to have a separate dressingroom in which boots and clothes can be changed, but,

failing adequate accommodation of this nature, some other means should be adopted for the prevention of dirt.

Personal Cleanliness.—The importance of personal cleanliness in relation to health is now generally recognised, but the physical training lesson affords an excellent opportunity for impressing it upon the young. When taking vigorous exercise, more especially in warm weather, perspiration tends to moisten and contaminate the clothing more than at other times. The practice of not changing damp clothing after exercise is likely to cause chills, and affect the skin prejudicially so that it tends to lose its efficiency as an excretory organ. This may result not only in minimising the beneficial effects of exercise, but possibly in serious illness.

Clothing.—Whenever possible, special clothing—preferably flannel trousers and shirt, jersey, or vest—should be worn during a physical training lesson, and when playing games or taking active exercise of any kind. After exercise a warm bath followed by a cold shower and a good rub down with a coarse towel is conducive to both comfort and health, but a rub down with a towel and a change of clothes will help to prevent the danger of chill if a bath is not available. During exercise clothing should be light and fit fairly loosely. Tight, close-fitting collars,

belts, or scarves should on no account be worn.

It is better to dispense with collars and neckties altogether, and if a shirt is worn, to unfasten it at the neck. The wearing of light clothing during exercise facilitates the loss of the surplus heat produced during the movements, but immediately afterwards sufficient clothing should be added to prevent the body from cooling too rapidly and thus becoming chilled. This is especially important in the absence of facilities for washing, bathing, or rubbing down immediately after exercise.

The nature and amount of clothing worn during and after exercise must depend on the weather, together with the temperature of the building and that of the atmosphere outside. During the actual exercise clothing as a rule should be reduced to a minimum, though it must be sufficient to keep the body reasonably warm. To avoid the danger of chills, the class must not be kept standing in draughts between the exercises. The shoes worn should be light and flexible so that the foot and ankle may be used with full freedom, which is necessary for acquiring lightness and ease of movement. The use of boots and slippery or stiff-soled shoes must be avoided.

It is possible that facilities in the shape of buildings, accessories, special clothing, and the conveniences described in this chapter may not always be available as a whole, on the ground of expense and for other reasons. Nevertheless they have been dealt with in detail as a guide to conditions which should be fulfilled by degrees as money becomes available, if they cannot be provided when instruction is commenced. In any case a knowledge of the hygienic principles which govern the science of physical training will help materially to ensure good results from instruction even when it is carried out in the absence of

complete facilities.

CHAPTER IV

Instruction of Classes

The "Army Manual."—The principles and methods laid down for the instruction of men in the Army Manual of Physical Training are applied in this book to the training of pupils between seven and twelve years of age, and instructors must refer to the former work whenever necessary for guidance and information. It will be easy for men who have been trained at the Headquarters Gymnasium at Aldershot, in the system at present taught there, to use the tables of this Manual for the instruction of young pupils in the light of the special information regarding the task of training them which it contains, as the nomenclature employed in it, the method of presenting the tables, and other details are taken from the Army Manual, together with the majority of the exercises.*

The Tables of Exercises.—The tables in this Manual provide the framework of a progressive scheme of training for pupils within the age-limits specified. It is obviously impossible in a small, cheap book to lay down sets of tables to cover the whole of this period of five years, with a rigid scheme of training complete in every phase and detail through its exercises, even if it were possible or desirable to do so, which is not the case. Consequently the tables in this Manual contain comparatively

^{*} A full description of every exercise which is not taken from the Army Manual is given on the page opposite to that in which such exercise first appears in the tables.

few exercises in relation to the length of time over which the course extends. Their value lies in the elasticity and adaptability of the scheme of training they comprise. The tables are arranged in order of progressive difficulty, and each of them approximately represents the training which, for pupils of average physique and intelligence, should occupy about eighteen months to two years. But it is intended that they shall be supplemented with intermediate * tables of exercises, specially chosen to suit the varying capacity of pupils and the different conditions under which classes are trained.

There are many reasons why an elastic, adaptable scheme of training is preferable to one laid down on rigid lines. The varying strength and intelligence of pupils, the different surroundings in which they live, the amount of time a week which each can spare for physical training lessons, their opportunities for taking active exercise apart from these lessons, and the difficulties occasioned by irregular attendance which interferes with the continuity and progression of training and which—except in schools and similarly organised institutions—is often unavoidable, are all factors presenting problems which must be solved according to the circumstances of each case. These circumstances vary greatly both locally and in different parts of the Empire, and make it essential to allow instructors plenty of latitude for modifying the tables to suit the special requirements of their classes.

Method of using the Tables.—The following example illustrates the method in which the tables should be applied for instruction upon the principles laid down in this Manual. If a pupil begins his training between the ages of seven and eight he should commence with Table I of the Junior Series. He should be taken through that series table by table, with any alterations or modifications

which the instructor considers necessary. The time occupied in working through the exercises should be from eighteen months to two years, and at the end of it the pupil ought to be able to perform those of Table VI in the Junior Series with reasonable facility and precision.

Between the ages of nine and ten he should commence the First Series of tables and work through them in the same manner one by one for eighteen months or two years, so that when he is twelve years of age he ought to be able to perform with comparative ease the last and most advanced exercises of the First Series. At the conclusion of this continuous and progressive physical training under a competent instructor, the pupil should show its results in his improved health, upright carriage, alert bearing, and ease of movement. These advantages, moreover, should reflect themselves not only in physical energy and strength, but also in virility of character, wholesome habits of life, and the clear brain which normally accompany a healthy and athletic physique amongst civilised men.

Progression from Table to Table.—The progression from table to table is a matter for the judgment of the instructor, and requires careful consideration, as the results of training largely depend upon the skill with which he carries it out. Information for the guidance of instructors in this matter is to be found in Section XIII, paras. 409–424, of the Army Manual, and must be studied with care. The necessity for gradual progression as an essential principle of physical training has already been emphasised, and practical effect must be given to it in the process of transition from table to table.

As a rule, this process is best effected by spreading it over several lessons. For example, when pupils have reached a satisfactory standard in the performance of the exercises of a certain table, and are considered fit to-

commence those of a new one, the instructor, while continuing the exercises of the former, should introduce into lessons one or two exercises at a time from the latter, substituting them for corresponding exercises in the table with which pupils are familiar. The lesson will thus consist in a great part of old exercises with one or two new features. As pupils master the new exercises one or two more from the new table should be introduced into the lesson in place of corresponding exercises of the old table. This process should be continued until the lesson consists entirely of new exercises and the transition from one table to another is completed.

This method of progression from table to table should be adopted throughout the training covered by the various series of exercises. It leads pupils up to more advanced forms of instruction so gradually that the increase of mental and physical effort involved is hardly appreciable, and they are neither exhausted nor discouraged by the rate of progress. It does not overtax the memory of pupils as an endeavour to teach them too many new exercises simultaneously would do, and it economises the time taken up in lessons for teaching new exercises, which always require a certain amount of explanation and illustration. Finally, it adds interest to instruction, by introducing elements of variety into it in conjunction with features with which pupils are already familiar.

Intermediate Tables.—For reasons already explained, instructors must supplement the tables in this Manual by intermediate tables of exercises especially prepared with regard to the age and requirements of their pupils, the effect of the exercises introduced, and other conditions peculiar to each class. It is absolutely essential that all additional exercises and intermediate tables should be based upon principles strictly consistent with those in this Manual, and that they should be applied to instruction

with respect to progression and every other particular according to the method and principles outlined in this

chapter.

Intermediate tables may consist partly of exercises from the tables in this Manual and partly of exercises from other sources. Such exercises may, with advantage, be taken from the Army Manual of Physical Training, the Handbook of Physical Training for the Royal Navy, and the Syllabus of Physical Exercises for Public Elementary Schools (1909). Where the nomenclature and words of command in these exercises differ from those employed in the Army Manual of Physical Training and in this book, instructors should alter them to agree with the method employed in these works, so as to avoid confusion.

Formation of Classes.—The number of pupils in a Physical Training Class should never exceed thirty, though a very skilled instructor may be able to train a larger number successfully. The size of classes must depend on circumstances, but small classes usually possess the great advantage, as compared with large ones, that instructors can devote more attention to individual pupils. Classes, irrespective of numbers, should consist as far as possible of pupils of approximately the same age and capabilities. As a rule the age of pupils in a class should not differ by more than about two years. These notes on the use of the tables have been written for the training of classes of this nature, and on the supposition that pupils will attend fairly regularly for a considerable part, if not for the whole, of the time covered by the course of instruction laid down in them.

Mixed Classes and Irregular Attendances.—It may in some cases be impossible to avoid the formation of mixed classes consisting of pupils whose age and capabilities vary considerably. It may also be impossible for some pupils either to attend regularly or remain in their class for a

sufficient time to ensure good results. Both these possibilities involve problems with which instructors are commonly confronted. They may sometimes be solved by the formation of small classes, and by arranging lessons to suit the convenience of pupils in regard to attendance, so as to permit them to be classed according to their age

and capabilities.

When this is not possible, the principal difficulty in training mixed classes is to avoid making the instruction too advanced for younger and less capable pupils or those who attend irregularly, and at the same time to avoid making it too simple for those who are older and more capable or who attend the classes regularly. The solution of this difficulty lies in arranging instruction so as to strike a suitable mean between these alternatives, but it requires care and skill on the part of the instructor to achieve good results under such conditions.

He may, for instance, meet the difficulty by choosing a table many of the exercises in which will benefit the whole class. The more difficult exercises in it may be taken by pupils who are sufficiently advanced, while easier exercises of the same groups are simultaneously carried out by the more backward. This arrangement may be effected without difficulty or loss of time by dividing the class so that pupils of approximately the same capacity are trained together. Again, when an exercise is taken which cannot be executed by the whole class together, such as heaving, balancing on beam, jumping, and vaulting, instruction may be varied for the different sections of the class in accordance with their requirements. It is comparatively easy to arrange this in the case of exercises performed with apparatus. Exercises without apparatus may be varied so as to make the starting position easier for those who are less advanced—for example, Hips firm instead of Arms upward stretch, etc.

It is usually in the heaving exercises that strain is most likely to be felt by dess expert pupils when instruction is too advanced for them. It is in this group that differences of strength are most evident. In mixed classes, therefore, each pupil may be allowed to perform any heaving exercise he knows which is within his power, the instructor taking care that he executes it correctly. Instructors should occasionally introduce new exercises of this group for more advanced pupils, and direct the less proficient to watch them, after which they may be encouraged by degrees to increase the difficulty of their own exercises under his guidance. This suggestion also applies to some of the jumping and vaulting exercises

and to the balancing exercises on apparatus.

Progress can never be as satisfactory with mixed classes as with pupils of even age and capabilities. If, in addition, attendance is irregular and pupils are constantly leaving and entering the class, the difficulty of making satisfactory progress is considerably increased. It is obviously impossible to obtain really good results if the continuity of training is constantly interrupted, and pupils do not keep in touch with the gradual progression of instruction in the class which they attend. It is equally impossible to obtain really good results in the case of pupils who enter or leave a class during a course of instruction. In the one case the benefits of training are to a great extent thrown away, and in the other the training is commenced wholly, or to some extent, without the essential groundwork of preparation which should lead up to it.

In spite of all these difficulties, it is possible for instructors to do good work with their classes. The essential, steady progression from table to table may be rendered difficult, and it may even be necessary, if the pupils in the class change to an appreciable extent through a number leaving or entering it during a course, to interrupt

progress and go back over ground already covered, as a safer alternative to pressing on too quickly. But if the fundamental principle of steady and gradual progression is adhered to, and the various difficulties which have been discussed are solved as far as the circumstances of each case permit, good results will certainly reward the skill

and perseverance of instructors.

Games.—Games in conjunction with physical-training exercises constitute part of the Swedish system on which the instruction in this Manual is based, and accordingly Chapter VI is devoted to this subject. In the tables of the Junior Series games are laid down as part of the instruction, and the following may be mentioned among those which are suitable to use with the exercises of this series. The reference numbers and letters refer to the order in which the games are arranged.

Reference Number.	GAME.
2 5 6 7 9 14 15 17	Bell-man. Changing Places. Circle Touch Ball. Crab Race. Follow the Leader. Prisoner's Base (a). Relay Races (b), (e) to (g). Three Deep. Touch (i), (a) to (c). Touch (ii), (iv) to (ix).

Though games are not laid down among the exercises of the First Series in Table I as part of the training, instructors must use their discretion in employing them for this

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purpose. In doing this they must not forget that facilitiearc usually available for elder pupils to play active field games in their leisure hours, and where this is the case games need not be included so frequently in the lessons as when such facilities are wanting. Apart from this consideration instructors should as a matter of principle introduce active games into lessons according to the age and requirements of the pupils, in addition to or instead of some of the jumping and vaulting exercises. In every case games should necessitate quick, active movements by

every member of the class.

Marching, Running, Jumping, and Vaulting Exercises.— Wide latitude must be allowed instructors in the choice of the marching, running, jumping, and vaulting exercises. It is unnecessary to adhere rigidly to the exercises of these groups as laid down in the various tables, and more variety should be aimed at in this class of exercise than in any other. As progress is made, a steadily improving style, together with increasing freedom and ease of execution, should gradually be demanded from pupils. The various exercises of these groups must, therefore, be repeated sufficiently regularly and accurately to ensure that they are learned thoroughly, while new ones must be introduced frequently to maintain the interest of pupils and provide a change of movement. Some of them, especially those of a practical as well as educational nature, should often be taken free with a view to developing the power of moving easily and freely. For this purpose many of the older and better known exercises should constantly be introduced either instead of or in addition to those in the tables.

Obstacle Courses.—An obstacle-course which entails jumping, vaulting, crawling, climbing, dodging, balancing, and other active movements, may sometimes be substituted in the lessons for some of the regular jumping and vaulting exercises. It is essential that each course should be suited to the capacity of pupils, and in the case of younger boys it should not be too difficult. To commence with, obstacle-courses should not be regarded as races. The best method of surmounting every obstacle should first be practised as a separate exercise among the jumping and vaulting exercises of a lesson before it is introduced with others into a course. Later, as pupils become proficient, they may race over obstacle-courses in pairs or fours, according to the nature of the course. These courses are especially valuable for the development of activity and the practical application of instruction generally, but the recreative element they introduce into training is not the least of their advantages.

In physical training lessons obstacle-courses are usually formed by placing various gymnastic apparatus in suitable positions so that they necessitate a due proportion of running, jumping, vaulting, balancing, crawling, dodging, and heaving, such as climbing or making use of ropes, etc., for heaving jumps. The arrangement of the apparatus in every case must rest with the instructor, who will have to take into account the facilities available for forming obstacles and adjust them carefully according to the

capacity of pupils.

Obstacle-courses should never be regarded as an excuse for romping or practical jokes, through the conversion of certain obstacles into traps from which pupils may be unable to extricate themselves in time to continue the race with any hope of success. On the contrary, in fixing obstacles even the element of luck must be eliminated as far as possible so as to equalise conditions, and the course must always be regarded seriously as a valuable training exercise.

Obstacle-races may be run by each individual competing against the rest, or by teams. The latter is the best

method from the point of view of interest and instructional value. In team races each individual competes against all the rest, but secures points for his side according to the order in which he finishes. The teams representing various units may be composed of any convenient number of competitors, and the whole of the teams may run simultaneously, or if the numbers are too large the race may be run in ties or heats.

In the Senior Course Physical Training Manual of this series the subject of open-air obstacle-races is dealt with, together with training for such races under military conditions, for which a definite programme is suggested. Very young boys, however, are not fitted for more difficult obstacle-courses of this kind, and their races are best confined to the obstacles on which they are trained during lessons, modified according to the judgment of their instructor, who must take special care to avoid the risk

of straining or overtaxing the strength of pupils.

Duration of a Lesson.—The younger the pupil, the shorter, as a general rule, should be the lesson and the time spent on any exercise in it. No exercise or lesson must ever tire out pupils. Strict moderation is an essential condition of successful training. A properly regulated lesson should leave the pupils invigorated and refreshed at its conclusion. It must be remembered that they have mental work to do and other active exercise to take during the day, for which their energies are required. A feeling of healthy fatigue at the end of the day is natural and harmless, but overwork in any one branch of education so as to cause fatigue during the day should carefully be avoided.

In the case of the Junior Series thirty minutes will usually be found sufficient for the earlier lessons, but as a rule those which occupy forty to forty-five minutes, according to the strength and intelligence of the pupils,

will be found to give the best results. The time devoted to lessons must always be exclusive of that allowed for

changing clothes.

If for any reason the time for a lesson has to be curtailed, adequate benefit will not result from it unless at least one exercise from each group is practised. The principle of organising the lesson as a complete whole must always be kept in view so that instruction, besides preserving its continuity, is thoroughly comprehensive. Accordingly, instructors must modify lessons so as to obtain as much benefit as possible in the reduced time. Valuable information for their guidance on this point is contained in paragraphs 417 to 425 of Section XIII of the Army Manual of Physical Training. The organisation of lessons where sufficient apparatus is not available is also considered in these paragraphs, together with the best method of applying exercises to training under various conditions according to the time available for lessons.

Abbreviations and Signs.—The following abbreviations and signs used in the tables and explanatory text of this Manual are similar to those used in the Army Manual of Physical Training:

= Feet close. F.cl. = Arm or Arms. Α. = Feet full open. F.full o. = Arms bend. A.b. = firm. Abd. = Abdominal. = flexion. flex. astr. = astride. fling. = flinging. backw. = backward. forw. = forward. Bal. = Balance. = Hips. = bend or bending. H. b. hang. = hanging. = Breathing. Br. = close or closing. H.f. = Hips firm. cI. Hl. = Heels. = crossgrip. crossgr. = Heels raise. Hl.r. Dor. = Dorsal. Hvg. = Heaving. = downward. downw. = inward. = exercise. inw. ex. = Jumping, = Foot or Feet. T. F.

= position. = Knee or Knees. К. pos. = raise or raising. K.b. = Knees bend. r. sidew. = sideways. kng. = kneeling. = sitting. = Leg or Legs. sit. L. = Span-bending. = Lateral. Sp.b. Lat. = stretch or stretch-= Marching. str. Mar. ing. = Neck. $N_{\cdot \cdot}$ = swing or swinging. = Neck rest. N.r. swg. = Trunk. Tr. = open. turn. = turning. oblique gr. = oblique grip. = upward. upw. undergr. = undergrip. = outward. outw. = Vaulting. = overgrip. V. overgr. = place or placing. pl.

(i) Parts of the body and names of the groups of exercises are commenced with a *capital* letter, and all other words with a *small* letter.

(ii) The directions for the starting positions, when entailing more than one movement in order to assume them, are written in the order in which the movements are commanded. When these movements are taken separately, a *comma* is used between each. When taken together no *comma* is used, and the order of the movements is given from the feet upwards.

(iii) In the tables a dash (—) is used between the starting position and the exercise, and the name of the exercise or any additional movement taken to increase the effect is

given in thick type.

(iv) When there is any possibility of doubt as to whether one or both arms, legs, knees, etc., are meant, an "s" is added to the abbreviation when both limbs are referred

to, or the figure I is used if only one is intended.

Illustrations.—The outline figure diagrams illustrating the various positions and exercises in this Manual are arranged in the order in which the exercises to which they refer first appear in the tables. For the sake of convenience all the diagrams illustrating the exercises in the Junior and First Series of Tables are to be found grouped together in this order and separately numbered for reference at the end of the First Series. This arrangement differs from that adopted in the Army Manual, in which the figure diagrams are grouped on the same principle as the exercises—namely, according to the part of the body to which they apply, as, for instance, to the leg, neck, arm, heaving, span-bending, etc. The diagrams illustrating the various exercises are referred to after them in the tables by numbers and pages so that they can quickly and easily be found.

CHAPTER V

THE TABLES OF EXERCISES

JUNIOR SERIES OF TABLES

Preliminary Remarks.—This Series of six Tables can be used with or without apparatus. They are suitable for pupils who commence their physical training between the ages of seven and nine exclusive of instruction they may have received before they reached the former age as "Infants." The Tables of the Scries may reasonably be spread over a period of from two years in the ease of younger pupils to about one year in the ease of those commencing their training later, but much depends upon the capacity of pupils and the amount of time available for their instruction. The Series should be completed at about the age of ten, when pupils ought, as a rule, to be fit to continue instruction with the exercises of the First Scries. Generally speaking the Junior Series is too elementary, and therefore unsuited for pupils of ten years of age and over.

The Tables of this Series are short and contain comparatively few exercises of a definitely ordered nature. They increase in length and assume a more ordered and definite plan of arrangement very gradually, and include a number of recreative and more or less amusing exercises introducing a large element of play, which, however, is somewhat reduced towards the end of the Series, while the more definitely ordered exercises are increased.

It must be remembered that one of the reasons for including comparatively few exercises in the earlier Tables —more particularly in the first of the Series—is because everything is then new to the pupils, and more time is consequently required not only for imparting but for assimilating instruction than will be the case later on. Instructors must spare no pains from the first to interest their pupils in the work, and they must guard against making a lesson too long, or devoting too much time in it to teaching any one exercise or movement. It will be seen that comparatively few exercises in this Series require the use of apparatus so that the Tables will serve for instruction without it, with a little modification. For instance, an Arms bending and stretching exercise may be substituted for a Heaving exercise which necessitates apparatus, or a suitable Abdominal or Dorsal exercise, as the case may be, which requires no apparatus may be substituted for those in Groups for which apparatus is necessary.

JUNIOR SERIES OF TABLES

JUNIOR SERIES OF TABLES

JUNIOR SERIES—TABLE I

I.	Falling in in open ranks (taken free).
2.	Attention Stand at ease. Fig. 6 (p.
	(72).

3. Turning to the left (right).

4. A.ex. Hips firm.* Figs. 13, 14, 15 (p. 74).
5. (a) H.f.—Beating time with one Foot, and—

(b) Beating time by clapping the Hands.

6. Tr. ex. H.f.—Trunk bending alternately backward and forward and downward. Fig. 17 (p. 76),

Fig. 21 (p. 78).

7.
8. Br. ex. Play.
Arms raising sideways with breathing.

9. Dismissing.

r. In order to avoid the somewhat wearisome teaching of the usual Class Arrangements in the early stages of the instruction of young boys-from whom great accuracy and precision are not required and should not be expected—the following

method is suggested for "Falling in in open ranks."

Make all the pupils place themselves round the gymnasium with their backs against the walls. A whistle should be sounded to attract attention and every boy should stand still. They should then be told what is required of them, "Fall in in oben ranks-Double!" The boys will then double out, moving free, arrange themselves at considerable intervals over the floor of the gymnasium and stand still facing the Instructor, who should be at one end of it.

If at the first attempt the boys get too close together they should be ordered back to the walls and a second attempt should be made. They will soon learn to fall in in this manner reasonably well, although slight adjustments may occasionally have to be made by the Instructor, who should make sure

that each pupil has plenty of room.

3. Moving quite free but quickly in the direction indicated.

4. In this Series all exercises marked with an asterisk (*) should always be taken as correctly as possible, bearing in mind relative capabilities of the pupils as distinct from the greater freedom allowed in the execution of the other exercises.

5. To give an idea of time to pupils, such times as Quick and Double March for example may be given in this manner. the cadence of the march being suited to the size of the pupils. As a rule the shorter the legs of the pupils the quicker the cadence should be.

6. Taken quite free, the time to correspond with the rhythm of breathing. There should be no attempt to show the correct

forward bend position in passing through it.

JUNIOR SERIES TABLE II Falling in in open ranks (taken free)

		raining in in open raines (taken nee).
2.		Turning to the left (right).
3.	L. ex.	H.f.—Feet placing astride. Fig. 32 (p. 83).
4.	A. ex.	Arm movements in different directions.
5.	T~. ex.	H.f. F.astr.—Trunk bending sideways.
6.	L. ex.	H.f.—Feet closing. Figs. 8 and 9 (p. 73).
7.	Hvg. ex.	Climbing up to the top bar (wall-bars, using hands
		and feet) and hanging with face to the bars.
8.		Forward lying (on ground). Fig. 29 (p. 81).
9.		Lying on the back (on ground).
10.		Play.
II.		Falling in in single rank (behind one another).
12.	Mar. ex.	Quick march Halt.
	Br. ex.	Arms raising sideways with breathing.

4. Moving the arms as quickly as possible quite free to the position indicated on the commands "Arms up!", "Arms sideways!", "Arms forward!", "Arms down!", varied as required.

7. Moving free but without hurrying. Later the pace may be quickened but not till the Instructor is satisfied as to safety.

8. Arms stretched forward palms flat on the ground, head back. Quickly down and up moving free.

9. Arms at the sides, palms flat on the ground. Quickly

down and up moving free.

II. Falling in quickly and taking up the covering without unnecessary noise. Plenty of space—distance from front to rear—should be taken.

12. The marching should be taken somewhat free as regards movement, time, etc., but the carriage should gradually be

corrected.

13. Raising the arms as high as can be managed conveniently without turning the hands.

JUNIOR SERIES-TABLE III

I.		Falling in in single rank (behind one another).
2.		Numbering in twos.
3.		Opening and closing ranks.
	L. ex.	H.f.—Feet closing (counting aloud). Figs. 8 and 9 (p. 73).
5.	N. ex.	Head bending backward.* Figs. 11 and 12 (p. 74).
6.	A. ex.	Arms bending.* Fig. 16 (p. 75).
7.	Lat. ex.	H.f., F.astr.—Trunk turning.
	Abd. ex.	H.f., F.astr.—Trunk bending backward. Fig. 17
		(p. 76).
9.	Dor. ex.	H.f., F.astr Trunk bending forward. Fig. 21 (p. 78).
10.	L. ex.	Heels raising.* Fig. 10 (p. 73).
II.	Hvg. ex.	Climbing to the top bar (wall-bars, using hands
	O	and feet) and hanging with face to the bars
		Descending by the Hands alone.
12.	Abd. ex.	Lying—Leg raising (single leg).
13.	Dor. ex.	Forw.lying (on ground), H.f.—Trunk bending backward.
14.		Marching sideways in double time (grasping hands in a circle).
15.		Play.
16.		Quick Marching.
	Br. ex.	Arms raising sideways with breathing.
-/-	Dr. CA.	Titles raising sideways with breathing.

- 1. At arms length from one another from front to rear. The distance may be corrected, on the word "Distance forward—Cover!" by pupils raising both arms forward, fingers extended, and just clearing the back of the boy in front.
 - 2. Turning the head over the shoulder as the number is called.

 3. From single rank as in 1—"Ones a step to the left, Twos

a step to the right-March!"

4. The boys count aloud in time with the movements and stop on the Instructor's command "Halt!"

7. Allowing the head to be turned as well as the body.

8 and 9. Allowing the head to be carried back in order to avoid the opposite fault of poking it forward.

II. A little quicker than before.

13. Without supporting the feet, several times at a moderate pace and without effort. The hands may also be placed low down behind the back and lightly clasped as in the Stand at ease position, It is probably better to teach the exercise in this way at first and to take the H.f. position later. The head should be carried well back.

I.

15. Br. ex.

JUNIOR SERIES—TABLE IV

Class arrangement as before. 2. L. ex. H.f.—Feet closing (counting aloud). Figs. 3 and 9 (p. 73). 3. N. ex. H.f.—Head turning quickly.* 4. A.ex. A.b.—Arms stretching sideways.* Fig. 23 (p. 79). (a) H.f., F.astr.—Trunk bending backward. Fig. 17 5. Tr. ex. (p. 76).(b) H.f., F.astr.—Trunk bending forward. Fig. 21 (p. 78).Heels raising and Knees bending (with support). 6. L. ex. Fig. 18 (p. 76). 7. Hvg. ex. Fall hanging. Fig. 19 (p. 77). 8. Abd. ex. Lying—Legs raising. 9. Dor. ex. Forw.Lying (on ground), H.f.—Trunk bending backward. (a) Quick Marching (zig-zagging round points). 10. Mar. ex. (b) Double Marching (free). Fig. 22 (p. 78). Downward jumping (from benches-free). 11. J. & V. Play. 12. 13. L. ex. Heels raising.* Fig. 10 (p. 73). 14. Tr. ex. H.f., F.astr.—Trunk turning.

Arms raising sideways with breathing.

5. (a) and (b). Allowing the head to be carried back, as before indicated, but gradually teaching the exercise so that the chin is not raised or poked forward, but drawn slightly

in without effort or restriction of the breathing.

6. The support may be obtained—for the purpose of eliminating the greater part of the element of balance—by performing the exercise a short pace from and facing the wall-bars. A bar of convenient height is grasped lightly with both hands while the exercise is being performed. Another method of obtaining the support—a step further in progression—is to take up a position a pace from the wall-bars and turned to the left or right. A bar of convenient height is then grasped with the right or left hand and H.f. is taken with the other hand while the exercise is performed.

7. Moving free, quickly down to the position with head carried

well back and after a slight pause quickly up again.

8. The following will be found a useful progression before taking this exercise:

- (i) Lying on the back (as in note on 9. Table II of this Series).
- (ii) Lying-Knees raising (i.e. with knees bent).

(iii) Lying-Leg raising.

- (iv) Lying, Ks.r.—Legs stretching forward.(v) Lying, Ks.r., L.forw.str.—Legs lowering.
- (vi) Lying—Legs raising (at first a few inches and lowered again at once, later a little beyond the vertical, later to 45°).

These exercises may also be performed in the *Lying* pos. with N.r. or A.upw.str. which also forms a progression from the ordinary Lying pos. with palms on ground and arms at the sides.

10. (a) Points for wheeling round marked with jumping-standards, chairs, etc. (b) Fairly long paces and as lightly as possible.

11. Getting quickly on to benches and jumping down lightly, quickly up again, and so on.

3. A. ex.

JUNIOR SERIES-TABLE V

A.—INTRODUCTORY EXERCISES

(a) Falling in in two ranks (in line). I.

(b) Numbering in twos and Opening ranks.

2. N. ex. Head bending backward.* Figs. 11 and 12 (p.

A.b.—Arms stretching upward.* Figs. 24, 25, 26 (p. 80).

4. Tr. ex. (a) H.f., F. astr.—Trunk bending backward.* Fig. 17 (p. 76).

(b) H.f., F. astr.—Trunk bending forward and full downward.

Heels raising and Knees bending quickly (with 5. L. ex. support) and later, H.f.—Heels raising and Knees bending. Fig. 18 (p. 76).

B.—GENERAL EXERCISES

I. Hvg. ex. Fall hang.—Leg raising. Fig. 28 (p. 81).

2. Bal. ex. Foot backward raise and grasp.

H.f., F. astr.—Trunk bending sideways quickly. 3. Lat. ex. A. Abd. ex.

Overgr. (top bar, back to bars)—Knee raising. Overgr. (top bar, face to bars)—Trunk bending

backward with Legs raising backward.

(a) Quick Mar.—Heels raise. 6. Mar. ex.

(b) Double Marching. Fig. 22 (p. 78).

7. J. & V. (a) Downward jumping.

(b) H.f., Hl.r.—Astride jumping. Play.

8.

5. Dor. ex.

C.—FINAL EXERCISES

H.f.—Heels raising.* Fig. 10 (p. 73). I. L. ex. Arms raising sideways with breathing. 2. Br. ex.

A. I. As in the Army Manual of Physical Training, paras. 88, 95, and 96, except that the spaces occupied and the paces taken should be suited to the size of the boys, and, that in numbering, the head may be turned. The opening ranks may also be modified in accordance with the following commands—"The whole, Right—Turn!" "Ones of the front rank two paces to the left, twos of the rear rank two paces to the right—March!" Closing ranks may be performed to similar commands reversing the movements.

A. 4(b). In the full downward position, which should be taken somewhat free without showing the forward bend pos., the legs should be grasped as low down as possible on the word "Legs grasp!" Hips firm should be taken by command, before returning to the erect position, the head and shoulders

leading in the recovery.

B. 2. Bend the left leg backward at the knee and grasp it behind the back with the right hand and vice versa.

B. 3. Bending both the trunk and the head to the side.

B. 5. Keeping the legs straight carry the head, upper part

of the trunk, and the legs well backward.

B. 7(b). Jump upward and land lightly on the toes with F.astr. but without bending the knees, immediately jump upward again and land in a similar manner with F. together and continue the movements lightly, and easily without any pause till ordered to halt.

5. Tr. ex.

6. L. ex.

8.

JUNIOR SERIES—TABLE VI

A.—INTRODUCTORY EXERCISES

Class arrangements as before and—
Turning about.

2. L. ex. H.f.—Foot placing sideways. Fig. 27 (p. 80).

3. N. ex. (a) Head turning quickly.*

(b) Head bending backward.* Figs. 11 and 12 (p. 74).

4. A. ex. A.b.—Arms stretching sideways and upward *
Fig. 23 (p. 79) (counting aloud). Fig. 24
(p. 80).

(a) A.upw.str., F.sidew.pl.—Trunk bending backward * (only slightly). Figs. 41 and 42 (p. 87).

(b) A.upw.str., F.sidew.pl.—Trunk bending forward and full downward (free). Figs. 43 and 44 (p. 88).

H.f.—Heels raising and Knees bending.* Fig. 18 (p. 76).

B.—GENERAL EXERCISES

1. Hvg. ex. Fall hang.—Side travelling. Fig. 19 (p. 77).

2. Bal, ex. F.backw.r. and grasp—Hopping forward. R. Lat. ex. H.f., F.sidew.pl.—Trunk turning quickly.

3. Lat. ex. H.f., F. sidew.pl.-4. Abd. ex. Wheelbarrow.

5. Dor. ex. Forw.Lying (on ground), F.support,H.f.—
Trunk bending backward.

6. Mar. ex. (a) Quick marching.

(b) Double marching. Fig. 22 (p. 78).

7. I. & V. (a) Upward jumping.

(b) Racing to the top bar (face to bars). Play.

C .- FINAL EXERCISES.

I. L.ex. Heels raising.* Fig. 10 (p. 73).

2. Tr. ex. H.f., F. sidew.pl.—Trunk bending forward.* Fig. 21 (p. 78).

3. Br. ex. Arms raising sideways with breathing.

B. r. Shift the left hand to the left along the beam and carry the left foot a similar distance to the left along the ground, then move the right hand and right foot a similar distance to the left and repeat as often as necessary. The movements should be made steadily and somewhat slowly.

B. 2. When used as a Balance ex. only two or three hops should be taken somewhat steadily. Later on the exercise may be taken amongst the J. & V. when the distance hopped

and the pace may be increased.

B. 3. Allowing the head to be turned as well as the body.

B. 4 and 5. Each rear-rank boy takes hold of the legs of his front-rank boy, holding them like the handles of a wheelbarrow, the latter then moves forward on his hands across the gymnasium. The front-rank boy is then lowered to the Forw. lying pos. on ground, and executes the Trunk bending backward while the rear-rank boy supports his feet from the Knee bend pos. The exercises should then be taken with the ranks changed.

B. 7 (a). At first taken somewhat free but lightly and easily. Later on the correct style should be aimed at (see Army

Manual of Physical Training, para. 266).

FIRST SERIES OF TABLES

PRELIMINARY REMARKS

The six Tables of this Series are suitable for pupils who commence their training at the age of ten upwards, whether

they have had any previous training or not.

It should be noted that from the first these Tables are of a definitely ordered character, but that throughout the Scries they contain—especially amongst the Jumping and Vaulting group—a considerable element of recreation which may frequently with advantage be increased by the introduction of suitable games, etc.

Much time should not be devoted in the early stages to extreme accuracy of execution, as long as the essential principles are observed in the performance of the various exercises, but as progress is made, increasing attention

should be paid to carriage, accuracy, and control.

Life and quickness of movement should be aimed at throughout, but hurrying and rushing carelessly through

the exercises should carefully be avoided.

FIRST SERIES OF TABLES

FIRST SERIES OF TABLES

FIRST SERIES-TABLE I

A.—INTRODUCTORY EXERCISES

I. L. ex.

(a) Feet closing. Figs. 3 and 9 (p. 73).

2. N. ex.

(b) Heels raising. Fig. 10 (p. 73). Head bending backward. Figs. 11 and 12 (p. 74).

3. A. ex. (a) Hips fir

(a) Hips firm. Figs. 13, 14, 15 (p. 74). (b) Arms bending. Fig. 16 (p. 75).

4. Tr. ex. 5. L. ex.

H.f.—Trunk bending backward.

H.f.—Heels raising and later Heels raising and Knees bending.

B.—GENERAL EXERCISES

1. 2. Hvg. ex. See note B. 1.

Fall hanging (beam breast height to hip height)

Fig. 19 (p. 77), and add later—

Arms bending.

3. Bal. ex. 4. Lat. ex. H.f.—Knee raising. Fig. 20 (p. 77). F.cl., H.f.—Trunk bending sideways.

Abd. ex.
 Dor. ex.

On the Hands (on bench or beam). H.f.—Trunk bending forward. Fig. 21 (p. 78).

7. Mar. ex.

(a) Quick march Halt. (b) Double march Halt.

8. J. & V.

(a) Upward jumping (at first taken free).

(b) Long jumping over chalk lines.(c) Side travelling on wall-bars.

(d) Rising from lying position without using Hands.

(c) Play.

C.—FINAL EXERCISES

L. ex.
 Br. ex.

Heels raising. Fig. 10 (p. 73).

Arms raising sideways.

B. 1. True Span-bending exercises are not taken in this Series, but exercises which form a direct preparation for Sp.b. are taken in Tables V and VI.

B. 2. Progression should be obtained by lowering the beam.

B. 3. With regard to this and all one-sided movements the instruction contained in para. 80 Army Manual of Physical

Training should be borne in mind.

B. 8(c). The first boy steps up on one of the lower bars and grasps another bar, about neck height, with the hands, legs straight and arms bent. He then walks sideways, using his hands and feet, to the end of the bars. The remainder follow in succession as soon as there is room to get on the bars.

B. 8(d). From the *lying* pos. rise quickly to *sitting* pos., cross the legs and, continuing the movement with a slight jerk, rise to the feet. This exercise should be taken free and

quickly.

B. $\delta(e)$. Play, in the shape of suitable active games in which all the pupils get a due share of exercise and enjoyment, should be taken, not only in this Table, but in all of them in any Series, in addition to or instead of, some or all of the J. & V. exercises according to requirements, care being taken that these exercises are in no way neglected. The games should be varied as often as necessary to keep up interest and enjoyment.

FIRST SERIES—TABLE II

A.—INTRODUCTORY EXERCISES

- 1. L. ex. H.f.—Heels raising and Knees bending. Fig.
- 2. N. ex. Head bending backward. Figs. 11 and 12 (p. 74).
 3. A. ex. A.b.—Arms stretching sideways and later
 Arms stretching upward.
- 4. Tr. ex. (a) H.f.—Trunk bending backward. Fig. 17 (p. 76). (b) H.f.—Trunk bending forward. Fig. 21 (p. 78).

5. L. ex. H.f.—Foot placing sideways. Fig. 27 (p. 80).

B.—GENERAL EXERCISES

- 2. Hyg. ex. (a) Fall hang.—Arms bending. Fig. 19 (b. 77).
 - (b) Fall hang.—Leg raising. Fig. 28 (p. 81).

 And later
- (c) Fall hang., A.b.—Leg raising.

 3. Bal. ex. H.f.—Knee full raising. Fig. 20 (p. 77).

4. Lat. ex. Sit.astr., H.f.—Trunk turning.

- 5. Abd. ex. On the Hands (on bench or beam)—Leg raising.
- 6. Dor. ex. Forw.lying (on bench), F.support—Hips firm. Fig. 29 (p. 81).
- 7. Mar. ex. (a) Quick march.

8. Hvg. ex.

- (b) Double march.
- (c) Running—Long stride (over two chalk lines).
 Overgrip. Fig. 30 (p. 82).
- 9. J. & V. (a) Upward jumping. (b) Downward jumping.

(c) Jumping over rope (taken free).

- (d) Travelling upward, sideways, downward sideways, on wall-bars.
- (e) Rising from lying position without using Hands.

(f) Forward roll over.

C.—FINAL EXERCISES

I. L. ex. Heels raising.

2. Br. ex. Arms raising sideways with breathing.

B. 3. Raise the knee steadily as high as possible without

rounding the back or bending the other leg.

B. 4. On bench, pressing the knees against it so as to fix the lower part of the body. The turning can only be slight

from this position, but should be as far as possible.

B. 7(c). Two parallel chalk lines should be drawn across the line of march and, as he comes to the first line, each boy in succession must take a long stride in order to reach the second without checking his pace either before or after the stride.

B. g(d). Climbing upward with hands and feet till the top bar is reached with the hands, moving sideways to the next stall, descending to the bottom bar, again moving to the next

stall and continuing in a similar manner.

B. g(f). Bend the knees, place the hands on the ground, bend the head forward and well down, roll rapidly over, bringing the feet well under the body at the end of the roll, rise quickly

to an erect position, and move forward at once.

C. 2. In breathing the *inspiration* should be taken as the arms and chest-walls are raised, and then, without holding the breath or pausing at the top of the movement, the *expiration* should be commenced and the auxiliary movements reversed. On the completion of the expiration a slight pause should be made to agree with the natural breathing rhythm and the movements should then be repeated the required number of times.

The movements of the arms, etc., should all be easy, smooth, and continuous without sudden pauses or jerks, the inspiration being taken through the nose while the expiration may be made through the mouth or nose. The inspiration and expiration should be as deep and full as possible without any forcing, strain, or strong effort, and careful attention should be paid to the correct carriage of the trunk and head during breathing. A formal breathing exercise should not as a rule be repeated more than four or five times as a single exercise.

3. Bal. ex.

5. Abd. ex.

6. Dor. ex.

8. Hvg. ex.

9. J. & V.

FIRST SERIES-TABLE III

A.—INTRODUCTORY EXERCISES

1. L. ex. H.f.—Heels raising and Knees bending. Fig. 18 (p. 76).
2. N. ex. Head bending backward. Figs. 11 and 12 (p. 74).

3 A. ex. Arms swinging upward.

4. Tr. ex. (a) H.f., F. sidew.pl.—Trunk bending backward. Fig. 17 (p. 76).

(b) H.f., F. sidew. pl.—Trunk bending forward. Fig. 21 (b. 78).

5. L. ex. H.f.—Feet placing astride. Fig. 32 (p. 83).

B.—GENERAL EXERCISES

2. Hvg. ex. (a) Fall hang.—Arms bending with Leg raising. Fig. 28 (p. 81).

And later,

(b) Fall hang., A.b.—Side travelling.

H.f.—Leg raising sideways, and add later H.f.— Leg raising forward and H.f.—Leg raising backward. Fig. 33 (p. 83).

4. Lat. ex. H.f., F. sidew.pl.—Trunk bending sideways.

On the Hands (on bench or beam)—Arms bend. Forw.lying, F.support, H.f.—Trunk bending

backward. Fig. 29 (p. 81). 7. Mar. ex. (a) Quick march About turn.

(b) Double march. Fig. 22 (p. 78).

(c) Quick mark time.

Crossgrip. Fig. 34 (p. 84).

(a) Upward Jumping. Fig. 31 (p. 82).

(b) Forward jumping.

(c) On the top bar (face to bars).

(d) Passing each other on wall-bars (over and under).

(e) H.f., Hl.r.—Astride jumping.

(f) Running under (and later over) skipping-rope.

C.—FINAL EXERCISES

H.f.—Feet closing. I. L. ex.

2. A. ex. A.sidew.r.—Arms forward bend. Fig. 35 (p. 84).

And later

A.forw.b.—Arms flinging. Fig. 36 (p. 85).

Arms raising sideways with breathing. 3. Br. ex.

B. 2(b). Keeping the arms bent, shift the left hand to the left along the beam and carry the left foot a similar distance to the left along the ground, then move the right hand and right foot an equal distance to the left and repeat as often as necessary. The movements should be made steadily and somewhat slowly. The pace may be somewhat increased later.

B. 9(d). Number "One" on one stall of the wall-bars, number "Two" on the next stall. Number "One" walks up as high as possible and both then change sections. Number "Two" then walks up and number "One" down, sections are again changed and the movements repeated. All the bars are used at the same time, but the boys work in pairs, not going too

quickly at first but increasing the pace later.

B. 9(e). Jump upward and land lightly on the toes with F.astr. but without bending the knees, immediately jump upward again and land in a similar manner with F. together, and continue the movements lightly and easily without any

pause.

B. 9(f). Two boys swing the rope round as for skipping and the remainder pass under or over it, as required, one by one (one at each swing). The rope at the bottom of the swing should be moving away from the one who is to pass under it or towards him if he is to pass over it.

FIRST SERIES-TABLE IV

A.--INTRODUCTORY EXERCISES

1. L. ex. H.f.—Foot placing sideways. Fig. 27 (p. 80).

2. N. ex. Head turning.
3. A. ex. A.b.—Arms stretching upward. Figs. 24, 25,

26 (p. 80). 4. Tr. ex. H.f.,F.sidew.pl.—Trunk bending sideways.

5. L. cx. H.f.—Heels raising and Knees bending quickly with support.

B.—GENERAL EXERCISES

1. Preparation H.f.,F.sidew.pl.—Trunk bending backward. Fig. 17 (p. 76).

for Sp.b. H.f., F. sidew.pl.—Trunk bending forward. Fig

2. Hvg. ex. (a) Arch hanging (a little over head height). Fig. 37 (p. 85).
H.f., F. astr. pl.—Trunk bending forward and

downward.
(b) Fall hang. (fect on bench)—Arms bending.

3. Bal. ex. Walking forward on benches.
4. Lat. cx. Knceling, H.f.—Trunk turning.

5. Abd. ex. (a) On the Hands (on bench or beam)—Arms bending with Leg raising.

(b) Overgr. (on top bar)—Leg raising.

6. Dor. ex. Forw.lying, F. support, H.f.—Trunk bending backward. Fig. 29 (p. 81).

7. Mar. ex. (a) Quick march—Heels raise.

(b) Double march About turn. Crossgr.—Arms bending (with assistance). Fig. 39 (p. 86)

9. J. & V. (a) Upward jumping with Arms raising sideways. Fig. 31 (p. 82).

(b) Seven jumps.

8. Hvg. ex.

(c) On the top bar up (back to bars).

(d) Passing each other on wall-bars (six or more at a time).

(e) Standing on Hands and Head with support.

C.—FINAL EXERCISES

I. L. ex. H.f.—Feet placing astride.

2. A. ex. A. forw.b.—Arms flinging. Fig. 36 (p. 85).
3. Br. ex. Head bending backward with breathing.

A. 5. A short pace from and facing the wall-bars, grasping a bar of convenient height lightly with both hands.

B. 3. Benches placed in a straight line, later on in a crooked

line, and the movement should be quick.

B. g(b). Chalk lines marked on floor at increasing intervals so as to make the first space about 1 foot wide, the second space about 2 feet, the third 3 feet, and so on. Jump off both feet from one line to the next, till all the jumps have been completed,

without pausing between the jumps.

B. g(d). An even number on the bars at the same time. First, the boys of each pair change places as in Table III g(d), then the two outside boys remain still while the others change in pairs, then all change as before, and so on. Each boy thus works along place by place continuously in the same direction until he comes to the end, when he pauses once and then returns

in the opposite direction.

B. g(e). Advance one foot and bend the knee of the leg, to which it belongs, place the hands on the ground and then the head, getting the trunk, which should be as straight as possible, well over the head, and throw up easily with the legs until they are both vertical. The weight should be supported by the hands and head. The instructor in giving support should stand on one side of the pupil and hold or touch lightly the legs or trunk as may be necessary to assist in assuming the correct position and maintaining the balance

3. Bal. ex.

4. Lat. ex.

5. Abd. ex.

6. Dor. ex.

7. Mar. ex.

FIRST SERIES-TABLE V

A.—INTRODUCTORY EXERCISES

1. L. ex. H.f.—Foot placing sideways. Fig. 27 (p. 80).
2. N. ex. Head bending backward. Figs. 11 and 12 (p. 74).

3. A. ex. A.b.—Arms stretching sideways and upward.

4. Tr. ex. H.f., F.cl.—Trunk turning.

5. L. ex. H.f.—Heels raising and Knees full bending with support. Fig. 46 (p. 89).

B.—GENERAL EXERCISES

1. Preparation A. upw. str., F. sidew. pl.—Trunk bending backfor Sp.b. ward. Figs. 41 and 42 (p. 87).

A. upw. str., F. sidew. pl.—Trunk bending for-

ward. Figs. 43 and 44 (p. 88).

H.f., F. sidew. pl.—Trunk bending forward and downward.

2. Hvg. ex. (a) Crossgr.—Arms bending. Fig. 39 (p. 86).

(b) Undergrip. Fig. 45 (p. 88).

(a) H.f., F.cl.—Heels raising. Fig. 10 (p. 73).

(b) Running forward on benches.

H.f., F.astr.—Trunk bending sideways quickly.

Overgr.—Knees raising.

(a) Forw. lying, F. support, H.f.—Trunk bending backward. Fig. 29 (p. 81).

(b) Forw. 1ying, F. support, H.f.—Trunk bending forward.

As before and—

(a) Quick march, H.f.—Changing step at each pace.

(b) H.f.—Hopping on alternate Feet.

8. Hvg. ex. Overgr.—Side travelling. Fig. 30 (p. 82).
9. J. & V. Previous J. & V. ex. as required and—

(a) Jumping with one (three) paces forward off the left Foot.

(b) Skipping (with rope).

(c) Heaving long jump (with vertical rope).

(d) Standing on Hands and Head.

(e) Seven jumps diagonally to left and right alternately.

C.—FINAL EXERCISES

1. L. ex.

Tr. ex.
 A. ex.
 Br. ex.

H.f.—Heels raising and Knees bending quickly. H.f.—Trunk bending forward.

A. forw. b.—Arms flinging.

Arms raising sideways and upward with breathing.

B. 9(b). Rope swung by two boys either forward or backward, or individual skipping, each boy using a rope. In the latter case the rope should be held with the arms nearly straight and well clear of the body, and the rope should only be swung backward over the head.

B. 9(c). Take hold of rope, walk backward, run forward and rise for the jump with the forward swing of the rope, letting go with the hands as the rope comes to the end of its forward

swing.

B. 9(e). Chalk circles marked on floor at convenient distances from each other and placed so that an imaginary line joining all the circles will run diagonally to the left and right front alternately. Jump off both feet diagonally from circle to circle, till all the jumps have been completed, without pausing between the jumps.

FIRST SERIES—TABLE VI

A.—INTRODUCTORY EXERCISES

1. L. ex. H.f.—Quick mark time. 2. N. ex. Head turning quickly.

3. A. ex. A.b.—Arms stretching sideways and upward.

4. Tr. ex. H.f., F.astr.—Trunk turning.

5. L. ex. H.f.—Heels raising and Knees full bending. Fig. 46 (p. 89).

B.—GENERAL EXERCISES

1. Preparation A. upw. str., F. sidew. pl.—Trunk bending backfor Sp.b. ward. Figs. 41 and 42 (p. 87).

A. upw. str., F. sidew. pl.—Trunk bending forward. Figs. 43 and 44 (p. 88).

H.f., F. sidew. pl.—Trunk bending forward and

downward.

2. Hvg. ex. (a) Crossgr.—Arms bending. Fig. 39 (p. 86). (b) Undergr.—Arms bending (with Head support).

Fig. 47 (p. 89).

3. Bal. ex. (a) Walking forward on benches and turning about.

(b) H.f.—Knee raising. Fig. 20 (p. 77).

4. Lat. ex. H.f., F. support—Trunk bending sideways. Fig. 48 (p. 90).

5. Abd. ex. Lying—Legs raising.

6. Dor. ex. Forw. lying, F. support, H.f.—Trunk bending backward and forward. Fig. 29 (p. 81).

7. Mar. ex. As before and—

8. Hvg. ex. 9.]. & V.

(a) Changing step (by word of command).

(b) H.f.—On the left Foot hop.

Climbing (vertical rope taken free).

Previous J. & V. ex. as required and—

(a) Long jumping over chalk lines with three paces run.

(b) H.f.—Upward jumping with Legs raising sideways. Fig. 31 (p. 82).

(c) Leap frog.*

(d) Standing on the Hands with support.

* See Games, p. 98.

C.—FINAL EXERCISES

I. L. ex. H.f.—Foot placing sideways.

2. Tr. ex. H.f., F.astr.—Trunk bending backward.

3. A. ex. A. forw. b.—Arms flinging.

4. Br. ex. Arms raising sideways and upward breathing.

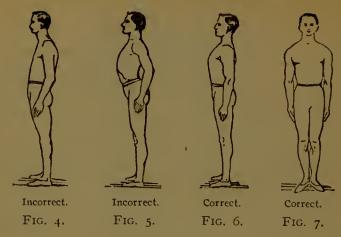
B. 2(b). Head support may be used for giving assistance in this exercise as follows: The one who assists stands behind the one who is doing the exercise, turned to the right or left. He places one hand underneath the back of the other's head and takes H.f. with his other hand; as the word "Arms—bend!" is given he assists by pushing the head upward (not forward) but allowing it to come slightly back as the body rises to the correct position. The boy performing the exercise presses his head slightly back against the supporting hand, and thus not only obtains assistance but strengthens the muscles in the upper part of his back and neck, which helps to improve his carriage.

B. 9(b). When rising in the air raise the legs quickly sideways and close them again quickly before landing in the usual manner.

B. 9(c). This is best performed in two ranks extended to rather more than full arm intervals. On the word "Leap frog, front rank—Ready!" the front-rank boys run forward quickly three paces, halt and advance the left foot, bending the knee and inclining the trunk slightly forward, back straight, head bent forward, and place both hands on the left knee, arms straight. On the word "Rear rank—Go!", the rear-rank boys raise the heels, run forward, spring off both feet, placing the hands on the shoulders of the front rank, separate the legs, keeping them straight, and vault clear over the front rank, landing as usual.

B. 9(d). Two paces from and facing the wall bars with left or right foot forward and both arms extended straight in front of the body, palms down. Bend quickly down, place the hands on the ground and throw the rear leg up into the air followed by the other, till the whole weight is on the hands, and the soles of both feet are supported lightly by the wall bars. The position to aim at eventually is with the trunk as nearly straight as possible, legs quite straight, and the whole body in full

balance on the hands.



The Position of Attention

Fig. 4: Bad Carriage.—A typical untrained position, with round back, poking chin and protruding abdomen, indicating

general slackness and unreadiness.

Fig. 5: Bad Carriage.—The opposite extreme to Fig. 4. with shoulders forced back, and chest forced forward. The result of these two faults alone entails restriction of the breathing and interference with the heart's action, owing to the fixing of the chest-walls, etc. The whole position indicates strain, and is either due to the pupil overdoing the position in his anxiety to do well, or to an incorrect conception of the position on the part of the Instructor.

Fig. 6: Good Carriage.—An erect position without strain. The carriage of the trunk and neck should be noted specially, also the easy carriage of the shoulders, which should be down and moderately back, the result being that the chest takes its natural forward position without any straining or stiffening. (See Army Manual of Physical Training, para, 91, which should

be studied carefully.)

Fig. 7: Good Carriage.—A front view of Fig. 6.
NOTE TO INSTRUCTORS.—A good carriage should be insisted

upon in all exercises and positions throughout the whole training. The acquirement of a good carriage, as a habit, is one of the results of good training.



Fig. 8.

Feet open = F.o.



FIG. 9.

Feet close = F.cl.

Fig. 8 indicates, in plan, the normal position of the feet in standing.

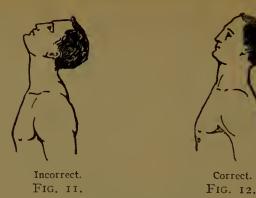
Fig. 9 indicates, in plan, the F. cl. pos.



Fig. 10.

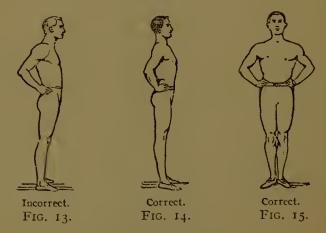
Heels raising.

Note the carriage of the trunk, neck and head.



Head bending backward.

The neck—not merely the head—should be carried back, while the chin is drawn slightly in.



Hips firm = H.f.

In this position the elbows should not be forced or carried

too far back, as this fault produces the incorrect carriage of the trunk, neck and chest, and consequent restriction of the movement of the chest-walls, etc., indicated in Fig. 13. The shoulders and elbows should be down and moderately back as in Fig. 14, the front view of which is shown in Fig. 15,



Fig. 16.

Arms bend = A.b.

The shoulders and elbows should be well down in this position and the *hands* carried well back. The elbows must *not* be carried back beyond the line of the shoulders. The upper arms should be kept slightly nearer to the trunk than is shown in the Figure, but without any effort.



Fig. 17.

H.f.—Trunk bending backward.

This movement of Trunk bending backward is really a continuation of Head bending backward, and should be confined to the upper part of the trunk only. It is specially important that the bending should *not* be in the small of the back.



Fig. 18.

H.f.—Heels raising and Knees bending.

The knees should be kept well out and the heels together. The correct carriage of the trunk and neck and the correct H.f. pos. of the arms should be maintained throughout.

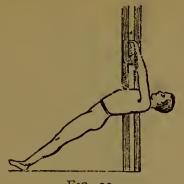


Fig. 19. Fall hanging.

The feet should not be too far front, the arms should be straight, and the forearms should not touch the beam. The body should be kept well up between the shoulders.



FIG. 20.

H.f.-Knee raising.

The erect carriage of the trunk and neck should be maintained carefully.

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FIG. 21.

H.f.-Trunk bending forward.

The trunk is inclined forward from the hip joints without otherwise altering its relative carriage or that of the neck and head.



Fig. 22.

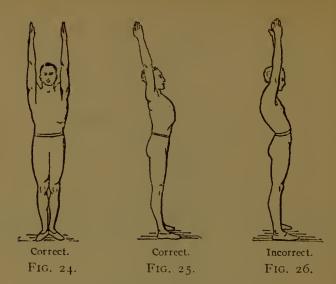
Double Marching.

Maintaining the correct carriage of the trunk, neck and head, and moving on the toes with light, easy, swinging strides.



Arms sideways stretch = A.sidew.str.

This position is arrived at from the position of Attention by Arms raising sideways, or from the A.b. pos. by Arms stretching sideways. The shoulders should be kept down and the arms carried well back while the erect carriage of the trunk and neck is maintained.



Arms upward stretch = A.upw.str.

This position is arrived at from the A.b. pos. by Arms stretching upward, or from the position of Attention by Arms raising sideways and upward or Arms swinging upward or Arms raising forward and upward. The arms should be stretched upward to their fullest extent and carried well back, care being taken to maintain the erect carriage of trunk and neck, and to avoid hollowing the small of the back and poking the head forward.

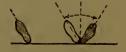


Fig. 27.

Foot placing sideways.

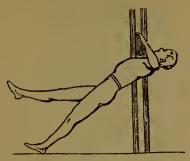


Fig. 28.

Fall hang., A.b.—Leg raising.

In taking A.b. from Fall hang., the wrists should be kept in line with the forearms, which should be kept back away from the beam. From this position the legs are raised alternately, the toes being pointed somewhat more than is shown in the Figure.

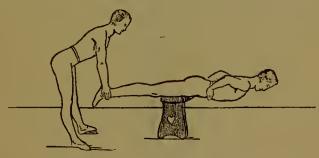


FIG. 29.

Forw. lying (on bench or on ground) F.support—Hips Firm.

See Army Manual, para. 237, and the latter portion of para. 108. Note the carriage of trunk, neck and head of both ranks.



Fig. 30. Overgrip = Overgr.

The neck should be carried well back and the chin slightly drawn in (see Army Manual, para. 171).



Fig. 31.

Upward jumping.

See Army Manual, para. 266. Note the stretching of the whole body in the air.



Fig. 32.

Feet astride = F.astr.



Fig. 33.

H.f.-Leg raising backward.

Note the carriage of the trunk, neck and head, and the bracing of the legs.



Fig. 34. Crossgrip = Crossgr.

Note the backward carriage of the neck and head and the upward carriage of the chest between the shoulders.



Fig. 35.

Arms forward bend = A.forw.b.

See also Fig. 36 and note to same.



Fig. 36.

A.forw.b. = Arms flinging.

The elbows should be carried well back in the A.forw.b. posand should be *kept* back during the flinging.

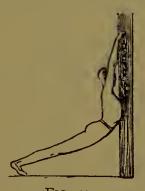


Fig. 37.
Arch hanging.



Fig. 38.

Arch hang.—Arms bending.

The elbows should be kept well back while bending the arms. This exercise is as a rule better performed at the wall bars than at the beam.



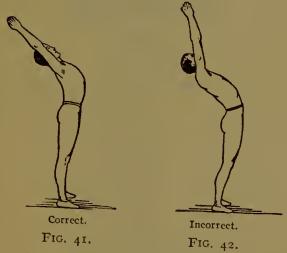
Fig. 39.

Crossgr — Arms bending.

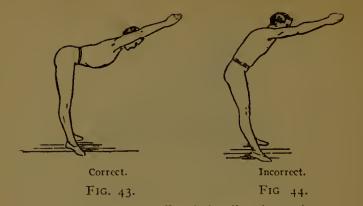


Fig. 40.

Vaulting with Foot assisting.



A.upw.str.—Trunk bending backward.



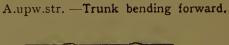




Fig. 45.
Undergrip = Undergr.

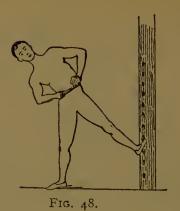


FIG. 46.

H.f.-Heels raising and Knees full bending.



Fig. 47. 'Undergr. — Arms bending.



H.f. F. support-Trunk bending sideways.

CHAPTER VI

Games

The following games are intended for use in physical training, combined with the regular exercises of the different series of tables. They may be played as considered advisable by the instructor, and are best interposed among the jumping and vaulting exercises of a lesson, or substituted for some of them. As the subject has already been dealt with under the heading "Games," in the chapter on "Instruction of Classes" (see p. 36), it is merely necessary to remind instructors that whereas games are part of the regular training laid down in the Junior Series and Table I of the First Series, they are only to be used in subsequent tables at their discretion, to vary the regular jumping and vaulting exercises as a recreative feature of training.

1. Balance-Wrestling.—Two players stand opposite each other, the toes of the left feet touching and in line, the right feet one pace to the rear and right angles to the left feet with the heels in line. They then grasp left hands, and each endeavours to make his opponent lose his balance, move one or both feet, fall to the ground, or touch it with his free hand to save himself falling (Fig. 49).

The players should again balance-wrestle in the same manner, but with the right feet forward and right hands clasped. The player who succeeds in making his opponent lose his balance or try to save himself in the manner described first both times wins the game.

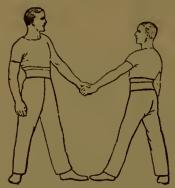


Fig. 49.—Balance-Wrestling. Position for commencing game.

2. The Bell-man.—All the players are blindfolded except one called It, round whom they grasp themselves at will. It holds a bell loosely in his hand so that it rings whenever he moves. It moves about among the players, who endeavour to catch him by touching him while he dodges about to avoid them. The player who succeeds in catching It first wins the game, which can be repeated as often as desired.

3. Catching and Pulling.—The players are divided into two sides of equal numbers. They form up opposite each other along a straight line marked between them on the ground or floor. The individual members of each side endeavour to catch their opposite opponent with their hands and pull him over the line. In doing this they must keep both their feet on their own side of the line.

Any player can assist another of his own side in pulling

over an opponent or to prevent him being pulled over by an opponent so long as he keeps both his feet on his own side of the line in doing so. A player is pulled over when both his feet are once across the line. He will then join his former opponents and assist them. The game finishes at the end of a time-limit, or when there are no players left on onc side. In the former case the side numbering more at the end of the time-limit wins the game.

4. Catching the Stick.—(a) The players form themselves into a circle facing inward. One of them stands in the centre, supporting a stick vertically on the floor by resting the palm of his hand on the top of it. This player must suddenly remove his hand from the stick, calling a player in the circle by name as he does so. The latter must try to catch it before it falls to the ground. If he succeeds in doing so he goes into the centre to support

the stick, and the game proceeds as before.

(b) Spinning the Plate is a variation of "Catching the Stick." The players forming the circle are seated and endeavour, on their names being called, to catch a plate or similar object set spinning by the player in the centre

before it has ceased to spin.

5. Changing Places.—The players, with the exception of one who is called It, are numbered consecutively from one onward, in a manner unknown to It. They stand round in a circle, facing inward, being mixed as regards their numbers so that they do not run consecutively. It stands in the middle of the circle and calls out any two numbers. The players answering to them must run across and exchange their places in the circle while It endeavours to occupy one of the places while it is vacant before the player running towards it can reach it. If he succeeds, the player whose place he occupies becomes It, and the game proceeds as before.

- 6. Circle Touch Ball.—The players stand in a circle, a couple of paces apart, with one in the centre who is 1t. A football is passed about the circle from one player to another, while It endeavours to intercept it by catching it. If successful, he changes places with the one who threw it. If the ball falls to the ground, owing either to a bad pass, or a missed catch, the player responsible changes places with It and the game proceeds as before.
- 7. Crab Race.—The players line up at the starting-point a few paces apart with their backs to the direction in which they are to race. A small circle is marked on the ground or floor at the finishing-point for each starter. At the signal the players drop forward on to their hands and race backward on hands and feet. The one first reaching his own circle at the finishing-point wins the race.
- 8. Duck on Rock.—(a) A straight line is marked on the ground or floor, one side of which is Home. Each player is provided with a "duck" consisting of a beanbag, a small block of wood, a stone, or similar object. With one exception the players are drawn up in line along and inside the boundary marking Home. The remaining player, called the "Guard," sets his duck on a large stone, sandbag, upturned bucket, or other suitable support placed a convenient distance outside Home, and stands near it. The players throw their ducks at the Guard's duck one by one in turn from Home, and endeavour by hitting it to displace it from its support.

If a thrower fails to displace the Guard's duck he must recover his own and regain Home without being "touched" by the Guard. If the Guard succeeds in touching him before he can reach Home with his duck, the thrower becomes the Guard in his place, and the game proceeds as before. A thrower may delay recovering his duck, but must be in possession of it ready to throw when his

turn comes round again, failing which he becomes the Guard.

A player can be touched once he has left Home, to which he may not return till he has recovered his duck. He is only safe while away from Home if he succeeds in reaching the place where his duck landed, and putting his foot on it. Directly he removes his foot or picks up the duck to return Home he can be touched.

If the Guard's duck is dislodged by any thrower, all the players whose ducks have not been recovered must at once run, pick them up, and return Home with them. They cannot, however, be touched by the Guard until he has replaced his own duck on its support. The first player he then succeeds in touching becomes the Guard in his place. The new Guard may, if he can do so in time, place his duck on its support and touch any player before that player can regain Home, when the one he touches becomes Guard in his place. The old Guard in every case must recover his own duck before he runs home.

(b) Duck Guard is a variation of the above game. The Guard is only allowed a limited space for touching, which is marked on the ground or floor, or otherwise clearly defined. All the players throw simultaneously at his duck, which is placed on an Indian club. The rules are otherwise the same as in Duck on Rock.

- 9. Follow the Leader.—One player or the instructor walks or runs round the ground or gymnasium performing a variety of exercises or surmounting a variety of obstacles. The class follows him in single file, carrying out all his actions in the order and exact manner in which he performs them.
- 10. Glove-Snatching.—(a) Two lines A and B are marked on the ground or floor some distance apart—say 20 to 30 feet. The players are formed into two sides of equal numbers, and each side is numbered consecutively

from one onward. The sides take up their positions respectively behind the lines A and B and stand in line, facing one another. A glove is then placed on the ground between the two lines, one-third of the distance from A. At a given signal player No. 1 from A and No. 1 from B run from their respective lines towards the glove. The object of the player from A is to capture the glove by picking it up and returning across his line with it untouched by the player from B, who may not follow him across his line. The object of the player from B is to touch A while he is carrying the glove, before he can cross his line, and so prevent its capture.

If both players arrive simultaneously at the glove, A need not pick it up immediately, but may dodge and await his opportunity for doing so within a short time-limit. B may not touch him until he picks up the glove, but once he has picked it up he may not drop it again—if he does so, he loses a point for his side. The glove may not be touched with the foot or moved except to be picked up. After a glove has been captured, or its capture prevented, it is put back in position on the floor or ground, and at a given signal two more players—one from each

side—continue the game as before.

Each member of the two sides in rotation competes for the glove in a similar manner, and when all have done so the sides change lines, a player of one side trying to capture the glove, and a player from the opposite side trying to prevent its capture as already described. Points are scored by each side as the players succeed in capturing the glove or preventing its capture. The side scoring most points wins the game.

(b) This game may be varied by placing the glove exactly in the middle of the distance between the two lines, instead of nearer to one than the other. The rules

are otherwise the same as in (a).

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(c) Another variation of the game consists in placing the glove as in (b) and allowing both competitors to try and pick it up. The one successful in doing so scores a point for his side. If the glove is dropped by one player in picking it up, his opponent may, if he can, pick it up, and score a point. The players in this variation do not run back to their respective lines with the glove after picking it up. It is practically a series of races, starting at a given signal to pick up a glove lying on the ground or floor exactly in the centre between two competitors. As in (a), they are not allowed to kick or touch the glove, except to pick it up. If two competitors take hold of the glove simultaneously, the one pulling it away from the other captures it, or, alternatively, dead heats may be declared at the discretion of the instructor.

11. In.—(a) A circle is marked on the ground or floor, and a number of places of safety outside it are agreed on and clearly defined. The players form up in a somewhat larger circle round the one marked on the ground or floor. At a given signal they try to push or pull one another into the circle. A player is in when once both his feet are in the circle. Directly one or more players are in the circle the others cry "In" and run to the places of safety. Those who have been pushed in, chase and try to catch them by touching them before they can reach safety-places. More than one player can take refuge at the same safety-place. Any one touched joins the catchers, while those who are free continue the game by running from one safety-place to another till they are caught. The last to be captured wins the game.

The first part of this game may form a prelude to many of the "Touch" games described in the following pages.

(b) This game may be varied by substituting for the circle marked on the ground or floor, a number of Indian clubs—or similar objects which can easily be knocked

over—arranged in a circle. If any players are made to knock over a club by the others by being pushed against it, the remainder run for safety, and the game proceeds as before.

12. Jumping the Bag.—The players stand in a circle with the instructor in the centre holding a string with a small bag at the end—such as is used for the jumping-standard (see p. 16). The instructor swings the bag so that it flies round and round above the ground. He then gradually pays out the rope until it becomes necessary for the players to jump to avoid it (Figs. 50 and 51). The players must not jump away from the bag, but straight over it, so that they retain their position in the circle without appreciably altering it during the game. Any player hit by the bag, knocked down by it, jumping away from it instead of over it, or failing to jump over it, stands out of the game. The last player left jumping wins the game.

13. Leap Frog.*—(a) The players group themselves or stand close behind one another in single file at one end of the ground or gymnasium. They are numbered consecutively from one onward. No. 1 then advances a few paces and makes a "back." No. 2 "leaps" over him and makes a back a few paces in front of him. No. 3 leaps over Nos. 1 and 2, and makes a back a few paces farther on. The game proceeds in this manner until all the players have leaped. It can be made more difficult by decreasing the distance between the backs and also by increasing the height of each back. For illustrations of various backs and methods of leaping, see

Figs. 52 to 59 inclusive.

(b) The game may be played between two sides of equal numbers. Each side is drawn up at a common starting-line and numbered as in (a). At a given signal

^{*} See note to Exercise B. 9 (c), Table VI, First Series, p. 71.



Fig. 50.—Jumping the Bag. Instructor upright.



Fig. 51.—Jumping the Bag, Instructor prone.



No. I of each side will advance a certain distance and make the first back for his side, and the other members of the team will leap him as fast as possible and make backs as described in (a). The backs must be a given distance apart and of a given height as far as possible so as to equalise conditions between the teams. The positions for the backs may be marked on the ground or floor to ensure equality. When all the players have leaped over No. I and formed backs in front of him, No. 1 of each side must jump over all the backs and stand clear. No. 2 will then do the same, and so on until there is only one back remaining. The winning side will be that which is the first to have only one back remaining.

(c) Another variation of the game is as follows. The players are divided into two teams—A and B of equal numbers. One player of A stands with his back to a wall, the rest make backs one behind the other, each grasping the waist of the one in front, except the first back, who rests with his head against the upright player (Fig. 58). The players of B, with one exception, line up along the backs made by A—one player beside each back. At a given signal each of the members of B vaults astride the A back beside him (Fig. 59), who immediately endeavours to dismount him while retaining his position both as a back and in the line.

The A players are allowed a time-limit for dismounting the B players. For every B player dismounted within the time-limit A scores a point. For every B player who. is not dismounted within the time-limit B scores a point. The instructor may act as umpire to judge and declare if any player is fairly dismounted, which will be the case if one or both legs touch the ground after a player is once astride a back. The teams then change places, B forming the backs and A vaulting astride them, the





Fig. 52.— Leap Frog.

Back—first position. Front and side views.

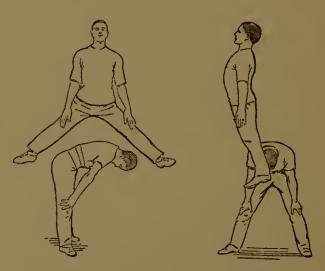


FIG. 53.—LEAP FROG.

Leaping—first position. Front and side views.



Fig. 54.—Leap Frog.

Back—second position. Front and side views.

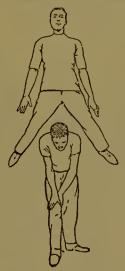


Fig. 55.—Leap Frog.

Leaping—second position. Front view.

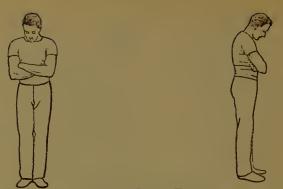


Fig. 56.—Leap Frog. Back—third position. Front and side views.

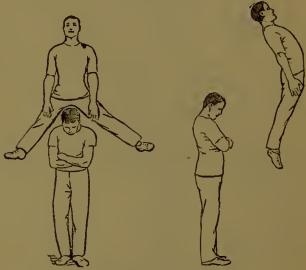


Fig. 57.—LEAP Frog.

Leaping—third position. Front and side views.

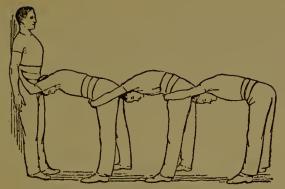


FIG. 58.—LEAP FROG BETWEEN TEAMS. First position.

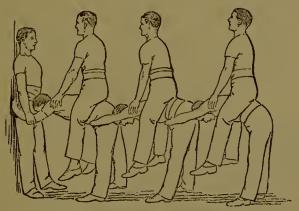


FIG. 59.—LEAP FROG BETWEEN TEAMS. Second position.

game proceeding as before. The side which scores most points after both have been backs wins the game.

14. Prisoner's Base.—(a) The players form themselves into two sides—A and B—of equal numbers. The ground is divided as in Fig. 60 into a territory and prison for each side. In each prison is placed an equal number of flags or caps. It is the object of each side to enter the

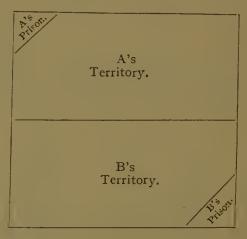


FIG. 60.—PRISONER'S BASE.

opponents' prison and capture their flags. The side that captures all its opponents' flags first wins the game. Flags can only be captured one at a time and when there are no prisoners in the prison.

To capture a flag a player must enter the opponents' prison through their territory without being touched by any of them. If he succeeds in doing this he may return with a captured flag to his own territory in safety. A player having entered the enemy's territory to attempt

to reach his prison may run back to his own territory to

escape being touched.

Players can be made prisoners while attempting to capture flags in their opponents' territory if they are touched by an opponent, who may then take them to his prison, where they must remain till rescued. Prisoners may be rescued by members of their own side who succeed in entering their opponents' prison without being touched. All the prisoners to any number can be set free by one of their own side. The rescuer and rescued may always return to their own territory in safety.

(b) The game may be varied as follows. The ground is divided as in Fig. 61. A captain is appointed for each side. The players of each side are numbered consecutively from one onward, and assembled in their respec-

tive bases.

No. IA then takes up his position in the centre of the ground at the spot marked Chevy in Fig. 61, and shouts the word "Chevy," when No. IB runs out to try to catch him by touching him. IA can then run home to his base for safety, or stay out and endeavour to avoid capture by dodging his pursuer. Meanwhile another of A side—2A—is sent out to capture 1B, who in turn can stay out or run home to his base for safety. A player of B side—2B—is then sent out to capture IA or $2\hat{A}$, and so on.

A player can only capture those opponents who went out before he did-not those who went out subsequently except the last player of each side to go out, who may be captured by any of his opponents. On being captured a player must go with his captor to the opponents' prison. The captors must all return to their bases before recommencing to play.

A captor while taking a prisoner to prison or returning home to his base afterwards cannot be touched. Prisoners must remain in prison until released by one of their own side who has reached the prison untouched by his opponents, and only one prisoner can be rescued at a time by each rescuer. Both the rescuer and prisoner are safe while returning to their bases, after which they are free to take part in the game as before.

The side which first makes prisoners of all its opponents



Fig. 61.—Prisoner's Base—Chevy.

wins the game. This game can be made easier if the players pin cards or bits of paper boldly marked with their numbers on their coats to obviate the necessity of remembering them. The cards or paper might further be made of different colours to distinguish the opposing sides, or they may be distinguished in some other simple way.

15. Relay Races.—General Rules.—These rules apply generally to the various Relay Races described in the following pages. The races are meant to be run between two or more rival teams of equal numbers, though they

can also be run by a single team without this competitive feature.

The members of the competing teams must be drawn up in single file one behind the other at a common starting-line, so as to equalise conditions between them. At a given signal the players of each team who stand first in their respective files must start off simultaneously and perform the various actions described in the following

"Relay Race" games.

Immediately on completing these actions each player must return to his place in his own team and touch the player immediately behind him—unless the conditions of any Relay Race make this action unnecessary for its continuance, as for instance in Back-Passing. The moment he is so touched, but not before, this player must start off—irrespective of what is happening in other teams—complete the various actions carried out by his predecessor, return to his place in the team and touch the player immediately behind him, who in turn starts off to perform the various actions, and so on till all the players of each team have performed them. In every case the winning team is that one, all the players of which succeed first in completing the performance of the particular actions which constitute the "Relay Race."

(a) Back-Passing.—The teams stand in single file one behind the other a distance of one to three paces apart. The player at the head of the file in each team holds a ball. At a given signal these players pass the ball backwards over their heads to the player next behind them, who passes it similarly to the next, and so on until it is received by the player at the rear of the file. On receiving the ball the last player runs with it to the head of the file, takes up his position there and passes it backward over his head to the next player, when the game proceeds as

before.

Every player of each team on receiving the ball at the rear of the file must, in turn, take his place at its head and pass the ball backward down it, as described at least once. The race ends when the player who was at the liead of the file when it commenced runs as last man to its head once more. The team in which the original head of the file regains this position first wins the race.

No player may turn his head to look back as he passes the ball to the player behind him in the manner described. If the ball is so thrown that a player cannot catch it, or if, having caught it, a player drops it, the player in question must pick it up even though he has to leave his place to do so. Having recovered the ball he must return to his place and pass it backward in the manner described to continue the race.

This Relay Race may, if desired, be varied by passing a variety of objects such as different sized balls, bean-bags, gloves or caps, etc., each player as he runs to the head of the file passing a different object backwards down it.

(b) Stride.—The rules for this race, so far as they can be applied, are exactly the same as those in Back-Passing. The only difference between them is that instead of passing the ball, etc., over their heads, it is passed backward from one player to another between their legs (Fig. 62). The players of each team stand in single file with their legs astride, their bodies bent forward, and their heads down so that each player can see the one behind him from between his own legs as he passes the ball, etc., through them to him.

(c) Change.—The teams, consisting of equal numbers, are drawn up as described in the General Rules to Relay Races on p. 107. In front of each team some distance away two small circles of equal size are marked close together on the ground or floor. In one of them are



FIG. 62.—RELAY RACES. Stride.



FIG. 63.—RELAY RACES. Circle.



placed three or more Indian clubs or other articles which

require care to place in an upright position.

At a given signal the first players of each team start off simultaneously, run to the circles in front of their respective teams, and change the articles from one to the other, using one hand only in doing so. The clubs or other articles must all be balanced upright in the circle

before the player may leave them to run back.

He must then return to his team and touch the next player, who in turn changes the articles from one circle to the other, as above described, returns to his team, and touches the next player, and so on until each player in the team has changed the articles from one circle to the other, and returned to his place in the team. The team in which all the players first succeed in doing this wins the race.

(d) Circle.—The players are divided into two or more teams of equal numbers. A point is marked on the floor or ground and the teams arrange themselves in lines as shown in Fig. 63. so that they radiate from this point as a common centre like the spokes of a wheel.

A cross is then marked on the ground at the feet of the outer player of each team, and a circle drawn outside

all the teams so as to run through all the crosses.

At a given signal the outer players of each team start simultaneously to run round the circle. The moment they start, the teams move one pace outward towards the circumference of the circle, so that the player next the outer man in each team is brought into position at the cross marked for him, while a vacant place is left next the inner player of each team between him and the point marked as the common centre for all the teams.

As each runner comes back to his team he passes down the line towards the centre, and takes up his position in the vacant place as the inner man. When he has taken up this position—and not before—the outer man of his team starts to run round the circle, and the race proceeds according to the rules already given until each player of each team has started as the outer man to run round the circle and finished as the inner man. The team in which all the players first succeed in running round the circle and taking up the inner position wins the race.

(e) Flag.—The players divide themselves into two or more teams of equal numbers. Each team is again equally divided into two halves. The players of each half are numbered consecutively from one onward, and drawn up in single file facing the other half at a suitable distance, as shown in Fig. 64. The player at the head of one of the two files into which each team is divided carries a small

flag, handkerchief, or other similar object.

At a given signal the players carrying these flags, etc., simultaneously run across to the opposite file of their respective teams and hand it to the player at its head, who at once runs across and hands it to No. 2 in the file opposite to him, who in turn runs across and hands it to No. 3, in the file opposite to him, and so on until the last player in one file hands it to the last player in the other. As each player hands the flag to the one at the head of the file opposite to him he takes up his position at the rear of that file and stands out of the race. The team in which the player originally at the rear of one file first succeeds in handing the flag to the player originally at the rear of the other wins the race.

(f) Indian Clubs.—The players divide themselves into two or more teams of equal numbers. The teams are drawn up side by side at a common starting-line in single file, as shown in Fig. 65, which also shows the ground or floor immediately in front of the player at the head of each file marked with a small circle at the starting-line



Fig. 64.—RELAY RACES. Flag.



Fig. 65.—Relay Races.

Indian Clubs.



and with a series of crosses arranged in a straight line stretching across a convenient distance in the direction in which the files face. The size of the circles at the starting-line, together with the distance between the nearest cross and the circle and that between each cross and the next must, in every case, be identical, so as to equalise conditions between the teams. On each cross is placed an Indian club upright or, if desired, some other suitable article can be substituted for the club.

At a given signal the player at the head of the file in each team starts off and brings in the clubs, etc., in front of him one by one in any order he likes, and places them upright in the circle on the starting-line at the head of his file. Directly he has placed the last club, etc., in the circle, he runs to the rear of his file and stands out of the race, while the player left at its head at once commences to take the clubs, etc., one by one out of the circle and place them upright in any order he likes back again

on the crosses as originally arranged.

Directly the last club, etc., is again placed in position on its cross, the player moving them runs to the rear of his file and stands out of the race, while the player at its head commences at once to bring the clubs one by one back into the circle, after which the next player commences to place them back on the crosses as originally arranged. The race continues in this manner until all the players in each team have moved the clubs, etc., either into the circle or out of it upon the crosses. The team all the players of which succeed in completing this task first wins the race.

The conditions of this race can be made easier by placing the crosses closer together so that a shorter distance has to be run by the players in moving them to and fro. It can again be made easier by doing away with the crosses and placing all the clubs to be moved by each team in a circle of equal size to that on the starting-line at the head of each file at a convenient distance away from it.

The same result can also be obtained if the rules are altered so that instead of each player in turn moving all the clubs, he only moves one club and returns to his place in the file, when the next player runs out and moves the next club, and so on. Under these rules the team which first succeeds in bringing all the clubs from the crosses into the circle on the starting-line, and out of it again to their original position on the crosses, wins the race.

(g) Simple.—The teams are drawn up in single file at a common starting-line. At a given signal the players at the head of the file in each team start off simultaneously and perform some simple task such as the following:

(1) run to a wall or tree, touch it, and return;
(2) run round some obstacle and return;
(3) run up to an obstacle, sur-

mount it, and return.

On returning to his file the runner touches the player next him, and he starts off to accomplish the same task. The race continues in this manner till all the players in each team have carried out the task and returned to their places in the files. The team all the members of which first complete the task and return to their places wins the race.

16. Stick Tug.—The players divide themselves into two sides of equal numbers. Two straight lines, parallel to one another, five feet apart, are marked on the ground, and a third line is also marked to run exactly down the centre between them. The length of the lines may be determined to suit the conditions of the game, according to whether the players tug in pairs, one at a time, or simultaneously. The players take up their position at the centre line to tug, each facing an opponent on the other side, exactly as in Balance-Wrestling, except that instead of clasping hands they hold a short length of

straight stick in either the right or left hand, as shown in Fig. 66.

At a given signal the players try to pull their opponents over their respective home lines (Fig. 67). A player is pulled over when both his feet are across an opponent's home line. A player pulling over an opponent scores a point for his side. The side which scores most points wins the game. The game may be played by all the



Fig. 66.—Stick Tug. Ready.



Fig. 67.—Stick Tug. Wrestling.

players of both sides simultaneously, each engaging his opposite opponent as above described, or it may be played in a series of duels between pairs. In every case only one hand may be used in pulling. A player who uses both hands, falls down, or lets go the stick is at once disqualified, and his opponent scores a point for his side.

17. Three Deep.—(a) The players, with the exception of two, form a circle consisting of couples. The players of each couple stand immediately one behind the other, facing towards the centre of the circle. Each couple

must be at least two paces apart from those on either side (Fig. 68). Both the two players excepted from this arrangement enter the circle. One is called *lt* and attempts to capture the other by touching him. The other player, however, can make himself safe from capture by running and placing himself in front of any of the

couples forming the circle.

The moment he does this the outside or back player of the couple in front of which he seeks safety becomes liable to capture by It, if touched by him. He must, therefore, seek safety by trying to place himself in front of another couple forming the circle, except the couples immediately to his right and left, which he may not use to seek safety in the manner described. In doing this the player may run round either inside or outside the circle, and It may, if he pleases, follow him outside the circle, or wait for him inside it. If a player is captured he becomes It, and the player who has captured him must immediately seek safety in the manner described. Couples from which the rear rank player has sought safety in flight must step back a little to preserve their correct distance in the circle.

(b) This game may be varied by arranging the couples in two parallel straight lines instead of a circle. The two lines must be at least four feet apart, and the couples in each line one to three paces apart, standing one behind the other, facing towards the head of the line

(Fig. 69)

It and the player he pursues at the commencement of the game take up their position in the space between the two lines. The player pursued by It must seek safety by placing himself between two couples in either line. If he succeeds in doing this the rear rank player of the couple towards whom his back is turned becomes at once liable to capture by It. He must, therefore,



FIG. 68.—THREE DEEP. Played in circle.



FIG. 69.—THREE DEEP. Played in line.



leave his place in the line and in turn seek safety from It, in the manner described, when the game proceeds as before. Couples from which the rear-rank player has sought safety in flight must step back a little to preserve

their correct distance in the line.

18. Touch.—(i) A B C.—The players group themselves at will about one who is It. It tries to catch other players by touching them while they dodge about among themselves to avoid him. If It succeeds, the player touched becomes It in his place. If the players are young, a rule may be introduced allowing any of them to become safe from It by crossing their first fingers and crying "Pax." This will relieve a player who is

getting breathless.

(ii) Circle Games: (a) Gap.—The players stand in a circle facing inward. One player is It. He runs round outside the circle and touches any player. The player touched must then leave his place, run round outside the circle in the opposite direction to It, and endeavour to regain his vacant place before It can fill it. It, directly he touches the player, must run round outside the circle in his original direction, and endeavour to fill the vacant place. If he succeeds, the other player becomes It, and the game proceeds as before.

(b) Give the Handkerchief.—The players form a circle facing inward, and hold hands. One who is It runs round outside the circle and places a handkerchief on the shoulder of a player. The player must pursue and endeavour to catch It by touching him before he can reach the place in the circle which has been vacated by the pursuer. If the pursuer fails to catch him, he becomes It, and the game proceeds as before. Both It and his pursuer may run round inside or outside the

circle.

(c) Whip.—The players stand in a circle facing either

outward or inward, with their hands clasped behind their backs. One who is It runs round behind them and places a knotted handkerchief in a player's hands. The player at once turns and chases his right-hand neighbour, beating him with the handkerchief as he runs round the circle back to his place. The player with the handkerchief then takes the place of *It*, who takes his place in the circle, and the game proceeds as before.

(iii) Counting.—The players group themselves at will round one who is It. It clasps his hands in front of him and endeavours to catch one of the other players by touching him with his clasped hands. If successful he takes this player as his partner, clasping his partner's left hand with his right. The partners stand still, count up to ten aloud, and then continue endeavouring to catch players by touching them with their hands clasped as described.

Every time they catch a player they must stand still and count aloud up to ten. Every player who is caught endeavours to catch others, either singly with his hands clasped in front, or with a partner in the manner above described, when he catches one. Before continuing the game after being captured or capturing another, every player must count aloud up to ten. When there are no more players uncaught the game ends. The last

player to be caught wins the game.

(iv) Cross.—The players group themselves at will round one who is It. It pursues a player and tries to catch him by touching him. The other players must try to run across between the pursuer and pursued. If any player crosses between them It is bound to pursue him instead of the one he was pursuing. When a player is caught he becomes It, and the game proceeds

as before.

(v) Crossing the Line.—Two parallel straight lines a fair distance apart are marked across the ground or floor. The player who is It takes up his position between them. The other players are all drawn up behind one of the parallel lines. At a given signal all simultaneously endeavour to cross the space between the two lines and reach safely across the farther line.

As the players run across, It captures as many as he can by touching them. All those touched, assist It in capturing other players in the same manner during the subsequent crossings from one line to the other. Neither It nor any of his assistants may go across either of the two parallel lines, but must remain in the space between them. The last player to be caught wins the game.

(vi) Crouch.—A "Home" is clearly defined or marked out at one end of the gymnasium or playground. A circle of about 25 feet radius is marked on the floor or ground some distance away from Home, the centre of it being also marked. The players, with the exception of one who is It, stand round the circumference of the circle facing inward. It crouches down on the centre mark and ean remain in this position at will. Directly he rises, but not before, all the players must run to Home for safety, while It endeavours to capture one of them by touching him.

When all the players, with the exception of those caught, have reached Home, It returns to the centre of the eirele with any players he has eaught, who, thereafter, become his assistants for the rest of the game, and help him to catch players in the manner described. While It and his assistants, if any, return to the centre mark in the eirele and crouch down round it close together, the other players leave Home and again group themselves round the circle. It then gives the signal to rise, and with his assistants again pursues the players, who run

home to escape capture. The game continues in this way until no more players are uncaught. The last player to

be caught wins the game.

(vii) Dumb-bell.—The players group themselves at will round one who is It. One of the players holds a light dumb-bell, indiarubber ball, or other suitable object in his hand. It must try to capture this player by touching him, while he tries to escape capture by running and dodging about among the other players. So long as the player holds the dumb-bell, etc., in his hand he is liable to capture by It. He becomes safe from capture the moment he has passed the dumb-bell, etc., to any other player. He must, in every case, hand the article to a player, and in no case throw it. The player to whom he offers to hand it must not try to avoid him or refuse to take it.

The moment the dumb-bell, etc., changes hands It must pursue the player who receives the dumb-bell, etc., so long as he holds it. It must always pursue the player who holds the dumb-bell, etc., at any time. If he succeeds in capturing him, the player caught becomes It. When a player is caught he must surrender the dumb-bell, etc., to his captor, and stand still in the place where he was caught until his captor hands the dumb-bell, etc., to another player, when he must try to capture him, and the game proceeds as before.

(viii) French.—As in Touch A B C, with this difference, that every It except the first must keep his left hand on the spot where an It touched him to capture him, until in turn he has succeeded in touching some one else.

(ix) Hanging.—This game necessitates the use of any gymnastic apparatus available which players can grip to hang from or to lift themselves off the floor. One player who is It tries to capture the others by touching them. If he succeeds, the player captured becomes It.





Fig. 70.—Touch. Maze. Side view.



Fig. 71.—Touch. Maze. Front view.

Players can only ensure safety from capture while they are hanging from apparatus. It is not allowed to stand

by a player for the purpose of tiring him out.

No two players may hang simultaneously from the same apparatus. A player hanging from apparatus must drop off the moment a later arrival hangs from it, and must seek safety on some other apparatus before again taking refuge on the one which he is forced by this rule to vacate. There should be less apparatus than there are players, as this ensures a brisk game.

(x) Maze.—The players, with the exception of two, form up in single file, one behind the other, so as to form two or more parallel lines which are one or two paces apart. Each player with one hand holds the hand of the player immediately in front of him, and with the other the hand of the player immediately behind him, so that each line is linked up from end to end, as shown

in Fig. 70.

One of the remaining players becomes It and pulsues the other up and down the lines formed by the rest, trying to capture him by touching him. While the pursuit is in progress the instructor, or a selected player, suddenly gives the order Change, when the players let go the hands of the players immediately in front and behind them, and grasp the hands of the players immediately next them in the lines to the right and left of their own. This order has the effect of changing the direction of the parallel lines up and down which It has to pursue his quarry, as shown in Fig. 71.

The interest of the game depends a good deal upon the judgment of the person giving the order, which changes the direction of the lanes. He should change the direction frequently. A fairly short time-limit should be fixed, at the expiration of which, if It has not caught the player he is pursuing, two fresh players should be selected as

It and the pursued respectively. Two fresh players will in any ease earry on the game immediately after It has

eaptured a player within the time-limit.

(xi) Numbers.—A "Home" is marked by a straight line on the ground or floor, or otherwise elearly defined at each end of the gymnasium or playground. In the space between the Homes stand two players, each of whom is It. The remaining players are numbered so that there are several players with the same numbers. Half stand in each Home, but those with the same numbers should not stand together nor be all in the same Home.

The instructor or one of the *Its* ealls out a number, and those bearing it must at onee simultaneously run aeross from the Home in which they stand to the one opposite, while the two *Its* try to eapture them by touching them. The players eaptured stand out of the game, which finishes when all are eaught. The last player

to be eaught wins the game.

(xii) Pair.—The players divide themselves into eouples and group themselves at will about one of the eouples which is It. This eouple stands hand in hand in a space in the centre of the gymnasium or playground marked or otherwise clearly defined as It's territory. The remainder of the players advance into It's territory at will

and not in pairs.

The eouple It endeavours to catch them by touching them with their clasped hands, as in Counting (p. 116), while they avoid It by dodging or running for safety outside It's territory, which they may do as often as they please. When a player is caught he remains a prisoner in It's territory until his partner is eaught, when that pair becomes It in the place of the former eouple. When there is a new It all prisoners are freed and the game proceeds as before.

(xiii) Partner.—The players except two, divide them-





Fig. 72.—Touch.

Partner.

sclves into couples and group themselves at will about the gymnasium or playground. Each couple link arms. Both players of each couple must keep their outside arms fixed with the elbows bent outward from the side and the hands

resting on the hips, as shown in Fig. 72.

One of the two remaining players becomes It and tries to capture the other by touching him. The latter may elude capture by linking his arm with the outside arm of a player of any couple, whereupon he becomes the partner in that couple with the player whose arm he takes. The other player has then to seek safety from It in a similar manner. Couples may try to prevent a player seeking safety with them in the manner described, but only by twisting, turning, and running away.

(xiv) Stick.—All the players stand close together. One of them holds a short stick which he throws away, calling out as he does so the name of the player who is to become It. The players then scatter in all directions. It picks up the stick, pursues and endeavours to touch players

with it while they dodge about to avoid him.

It is not allowed to hit players with the stick. Any player he touches with it must assist him in catching other players by seizing them and keeping hold of them until It can arrive and touch them with the stick. The player held may in the meantime try to escape if he can. The last player to be caught wins the game. It and his assistants, before they commence to help him, must be distinguished by turning up the coat-collar, wearing the cap back to front, or in some other simple manner.

PART II

SWIMMING AND LIFE-SAVING *

CHAPTER VII

Swimming

It is essential that every man and woman should be taught to swim. This necessity cannot be impressed on the mind more forcibly than by realising the extent to which human life is continually wasted through accidental deaths by drowning. Statistics regarding such deaths are not available for the United Kingdom as a whole, because apparently they are not recorded in Ireland and Scotland. According to figures published by the Secretary of the Royal Life-Saving Society, based on records kept in England and Wales, it appears that 25,571 persons were drowned in inland waters during the past ten years. The average number of persons drowned annually in the River Thames between Staines and London Bridge—a distance of 35 miles—is four hundred.

Excluding deaths from drowning at sea as the result of shipwrecks, marine disasters, and other causes round

^{*} The Editor desires to acknowledge his indebtedness to Mr. W. Henry, Secretary of the Royal Life-Saving Society, for his valuable help with respect to the chapters on Swimming, Diving, and Life-Saving.

the coasts of the United Kingdom, it is estimated that 5,000 persons are drowned every year in its inland waters. Official figures published by the Royal Humane Society from the annual registry of deaths by drowning from the year 1870 to 1909, show that during that period 128,382 persons have been drowned in England and Wales—an average of between two and three thousand deaths a year. Of these 102,734 were males and 25,648 were females. In 21,328 cases death was due to suicide and in 107,054 cases persons were accidentally drowned. It is certain that this great loss of life could be minimised very considerably if every man and woman knew how to swim, and how to save life in the water. About 200 persons are said to be rescued annually from death by drowning by men, women, and children who have been trained under the system laid down by the Royal Life-Saving Society of Britain.*

Instruction in Swimming.—Swimming is an art which is easily mastered, and once acquired is never forgotten. It should certainly form part of the general education of every girl and boy at school. In the absence of facilities at school, parents should take advantage of those afforded during holidays at the seaside or elsewhere, through opportunities for bathing, to have their children taught to swim under competent instructors. Pupils should always be examined by a doctor before commencing swimming lessons, and if necessary their instructor should be informed of any material fact regarding their condition, which must be taken

into account in training them.

Besides its practical utility in adding to the power of individuals to preserve as well as to save life, swimming has other material advantages. It is a pleasant bodily exercise which develops the chest, stimulates the nervous

^{*} Information regarding the Society and its aims can be obtained from the Secretary, Royal Life-Saving Society, 8, Bayley Street, London, W.C.

as well as the muscular system, and helps to strengthen the respiratory organs. It may prove of the greatest practical use to soldiers in the performance of military duties, and should together with instruction in Life-

Saving form part of the training of every cadet.

The instruction in Swimming, Diving, and Life-Saving, which is laid down in this Manual is based on the system in force in the British Navy and Army. The system of Life-Saving it contains is also consistent in principles and method with that approved by the Royal Life-Saving Society. Throughout this Manual the instruction is arranged with a view to enabling persons who have had no special training in its subjects to teach them to others

upon sound principles and practical methods.

A good swimming-bath, such as those to be found in many towns and schools, is a great advantage in teaching swimming. It should be scrupulously clean, well lit, ventilated and warmed, and provided with simple apparatus for teaching diving, and rescue from drowning, as well as swimming, as, for instance, a diving base or board, wires or ropes for supporting beginners on the surface while learning to swim, a rail or rope running round the sides of the bath at a convenient height above the water, and, if possible, a wooden dummy for practising the elementary stages of rescue from drowning. In the absence of all or any of these facilities instructors must use their ingenuity to make instruction as varied and practical as possible according to circumstances.

Caution to Swimmers.—Instructors should impress upon pupils, from the commencement of their training, the necessity for observing the following precautionary and emergency rules for swimmers. They should be committed to memory by every pupil and never forgotten, and they should be observed by all swimmers, no matter

how experienced or accomplished they may be. It is, moreover, their duty always to warn those who are ignorant of these rules whenever any are disregarded. They apply generally to bathing as well as to swimming in salt or fresh water.

1. Do not swim in quiet or secluded spots.

2. The most suitable time for a swim is about an hour or two before a meal.

3. Do not swim shortly after a hearty meal, when exhausted from vigorous exercise, or when shivering with cold.

4. Do not wait at the water's edge before entering it

until the body begins to lose its warmth.

5. On entering the water, do not gasp or catch the breath suddenly or spasmodically, and do not make short inhalations or expirations. Breathe freely, naturally, and regularly while in the water.

6. Persons unaccustomed to bathing in cold water

should not stay in too long at first.

7. Do not swim in the open air, if, after a short time, it causes chill, with numbness of the hands and feet.

8. Persons subject to faintness or giddiness should not

bathe without first consulting a physician.

9. Persons subject to ear-ache, deafness, discharge from, or any other affection of the ears, should carefully plug them with greased cotton-wool or cover them with waterproof caps before entering the water.

10. In cases of accidental immersion remember that the weight of clothes will not drag a person under water immediately, nor cause him to sink sooner than if undressed. On the contrary, any air

imprisoned in the clothing will help to buoy him up.

on the back, rub and stretch the affected limb. Should cramp attack the leg, turn up the toes, straighten it to stretch the muscles, and if possible apply friction. It is possible to swim a long distance even if both legs are attacked with cramp.

Swimming Drill.—Beginners, in attempting to swim, are apt to bend the back, as if stooping, make short, jerky movements with the hands and feet, and neglect to straighten the limbs. It is, therefore, the first duty of instructors to guard against these mistakes. The simplest way to do this is by means of swimming drill, which is more effective than any amount of verbal explanation.

This drill can be carried out on land in the schoolroom, gymnasium, or playground, and should precede instruction in the water. Instructors should first explain clearly the various movements of the limbs which are combined in the strokes of swimming on the breast, as this is the first method they will practise in the water. Every movement must then be executed carefully, the circular sweep of the arms and legs being properly defined, and all haste and flurry avoided. Pupils must first be taught the leg and then the arm movements, and when proficient in both they must practise the combined leg and arm movements until these are correctly and smartly executed. Instructors should introduce Breathing Exercises * into swimming drill in conjunction with the movements, according to the method laid down in this Manual.

^{*} See p. 63 (note to Exercise C. 2).

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The instructor must form up the class for drill so that he can supervise all its members, while each has ample room for the various movements, which must be made by all simultaneously, first by numbers separately, and then consecutively without numbers. Pupils must be taught the leg movements first, then those of the arms, and lastly the combined leg and arm movements. The drill is carried out by numbers given by the instructor as follows:

Number.	LEG MOVEMENTS.
Hips—Firm One	As usual. Raise the left knee, bending it well outward, and bring the left heel to the inside of the right knee, toes pointing downward.
Two Three .	Strike out with the left leg by straightening it smartly downward and as far to the left as possible. Keeping it quite straight, close the left leg steadily and firmly to the right leg,
	bringing the heels together.

Pupils must repeat the above movements by numbers with each leg separately till they are made correctly, when they should be practised with both legs alternately—the movements made on the second and third numbers being emphasised. Finally pupils must practise the movements without numbers, judging the time for themselves under guidance from the instructor.

Number.	ARM MOVEMENTS.
One	Bring the hands together close in front of the breast, thumbs touching, palms turned downward, fingers closed and extended, pointing to the front and somewhat upward.
Two	Shoot the arms out to their fullest extent to the front and somewhat upward, separating the hands a few inches in doing so.
Three . Four	Pause. Turning the palms of the hands slightly outward and keeping the thumb and fingers close together, sway the extended arms round outward and backward without lowering them, so that each describes a quarter circle which ends when they are level with the shoulders.

The above movements should be repeated by numbers till made correctly, when they may be practised without numbers, pupils judging the time for themselves. The movements throughout must be made evenly, except that the straightening of the arms should be emphasised, and care taken that there is no pause after the movements made on the number "Four" before the arms are allowed to fall into the natural position preparatory to repeating the drill.

Number.	COMBINED MOVEMENTS.
One	Combine the movements made on the number "One" for the legs and arms
Two	respectively. Combine with emphasis the movements made on the number "Two" for the legs and arms respectively.
Three .	Perform the movements made on the number "Three" for the legs.
Four	Perform the movements made on the number "Four" for the arms.

The above leg movements must be made as before by numbers, first with each separately, and then with both, alternately emphasising those made on the number "Two." Finally the combined movements may be practised consecutively without numbers, pupils judging the time for themselves.

Swimming Lessons.—Proficiency in swimming drill will not of itself enable a pupil to swim in the water, though it will help him to do so, because he will know and instinctively attempt the correct movements. To give him confidence the pupil may be supported for his first lessons in the water by a belt or girdle passed round his waist, and attached to a rod held by the instructor or an assistant. For large classes, when possible, wires may be stretched across the water at intervals of six feet, and at a convenient height above the surface, with two wheel-pulleys fixed on each, from which a girdle with a rope attachment is suspended and arranged as to length to

support pupils when trying to swim. Five wires thus arranged will enable instructors to provide support for ten pupils simultaneously. The first lessons should be devoted to swimming on the breast, and pupils should not be allowed to attempt other methods until they are able to swim an appreciable distance by the breast-stroke.

General Directions:

 Instructors must enforce strict discipline and perfect order throughout the lesson. These conditions are essential for good results as well as for the safety

of pupils.

2. All instruction in the water must be carried out well within the depth of pupils until they are able to swim an appreciable distance. To commence the lesson, pupils must be formed up in line near the water, a convenient distance apart from one another. At a word of command to this effect they must step into the water and await further direction.

3. When commencing instruction, pupils should, if possible, attend lessons daily or at least three times a week until they can swim. This rule is necessary for good results in later stages of training, and, if it is observed, progress should be rapid.

- 4. To facilitate instruction and save both time and trouble, classes should be formed of pupils whose stage of progress is approximately the same. Mixed classes or those comprised of pupils in different stages of progress should, for the convenience of the instructor, be divided into three sections. The first should consist of pupils able to swim an appreciable distance, the second of pupils able to swim a few strokes unaided, and the third of pupils who need support while trying to swim.
- 5. In mixed classes pupils in the third section should

be ordered to work in pairs, those of each pair alternately assisting his comrade by supporting him under the chest, while he practises the various movements of swimming. This plan, besides enabling the instructor to pay more attention to other sections of the class, will prevent pupils in the third section from becoming chilled while waiting for assistance.

Swimming on the Breast.—If the instructor considers it necessary to practise the leg stroke separately in the water before proceeding to combine the leg and arm strokes, this can be done as in swimming drill, in the following manner, which may only be possible if a swimming-bath is available for instruction. Pupils must grasp the rail or other support at the side of the bath with the left hand, place the right hand about fourteen inches below it, against the wall to which the support is fixed, and extend the body full-length on the surface of the water, with the legs in line with it, when they will be in position for carrying out the practice.

The combined leg and arm movements may be practised in the water as in swimming drill, pupils being supported as described in paragraph 5 of the General Directions. In practising these movements the body must be immersed completely with the chin touching the surface, the arms about three inches and the legs about nine inches below the surface. The strokes must be made without jerky actions, the body being kept steady, with the back slightly hollowed, and the head thrown backward in an easy, unstrained position. The instructor must be careful to see that the following movements are carried out correctly:

I. The leg and arm movements must be made simultaneously.

2. When the legs are being drawn up, the knees must



Fig. 73.—Swimming on the Breast. First Movement.

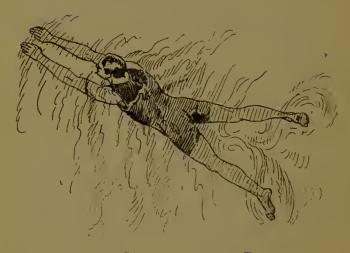


Fig. 74.—Swimming on the Breast. Second Movement.

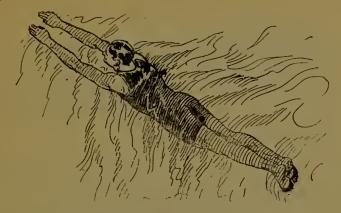


Fig. 75.—Swimming on the Breast.
Third Movement.

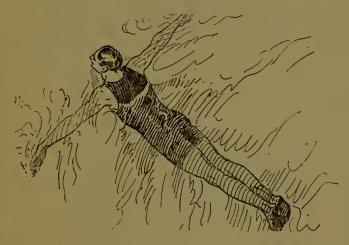


Fig. 76.—Swimming on the Breast. Fourth Movement.

be well apart, and the soles of the feet turned

upward.

3. In kicking outward, the lower part of each leg from the knee to the toe must be swept vigorously with a rounded movement, slashing the water with the front of the foot as the legs are being straightened.

4. The stroke of the legs as they are straightened must be continued with vigour until they come together,

when in line with the body.

As soon as the pupils can accomplish the combined leg and arm movements correctly in the water the instructor should form them up against the side of the bath at convenient intervals and, with the help of a push, encourage them to reach the other side by swimming across unaided. The various movements made in swimming on the breast are illustrated in Figs. 73 to 76 inclusive.

Swimming on the Back.—Ability to swim on the back is of great importance, for this stroke is especially useful in rendering aid to the drowning and for bringing struggling or unconscious persons safely to land. Pupils when learning to swim in this position often experience difficulty in assuming it correctly, owing to an instinctive dislike of the water flooding their ears, but after a few attempts it is usually overcome. Before commencing to practise the back stroke, the pupil should either be supported on the surface by the instructor or an assistant, while he makes the combined leg and arm movements, or else he should stand in the water, immerse his body until his head touches the surface; and then, by the aid of a push with his feet, fall backward and support himself in this position by making the arm movements of swimming on the back, while his feet are still on the ground.

The chief movements of the back stroke are illustrated in Figs. 77, 78, and 79. They are similar to those of

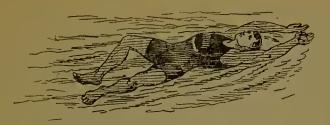


Fig. 77.—Swimming on the Back.
First Movement.

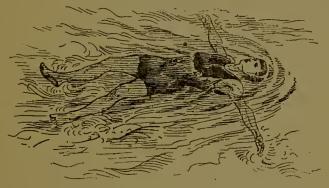


Fig. 78.—Swimming on the Back. Second Movement.

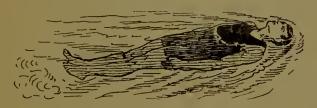


Fig. 79.—Swimming on the Back.
Third Movement.

the breast stroke. Swimmers, in both methods, rely mainly on the force of the leg stroke, the effect of which when swimming on the back, depends on the front of the lower part of the legs and of the foot. The force of the leg stroke is exerted by a series of circular movements of the feet, which should be moved outward wide apart and then inward towards each other, in line with the body. The value of the legs and feet as propellers is increased if the former are straightened when in line with the body and moved with greater rapidity when extending them than when drawing them up.

Pupils must give particular attention to the following

points in connection with the back stroke:

I. The outward kick must be made with as much force as possible.

2. The propelling force comes from the front of the lower part of the legs and of the feet.

3. Each foot must describe a series of semi-circles.

- 4. The thighs must be kept in line with the body, and not move up and down from the hip. The sitting position often adopted by beginners is wrong, and must be avoided.
- 5. The legs must be brought together when straightened at the conclusion of the stroke, as nearly as possible in line with the body (Fig. 79).

6. The feet must work loosely on the ankle-joints at the end of the leg stroke.

With regard to the arm action the most effective method is to bring the arms from the sides of the body out of the water over and beyond the head, extending them fully and then sweeping them through the water smartly outward and downward to the hip. The arms must be brought downward at the moment the legs are drawn up, and as the latter are straightened the arms must rapidly

be brought into position beyond the head ready for the

next downward sweep.

The back stroke, owing to its importance in connection with life-saving, should always be practised without the use of the arms. To facilitate this the pupil while swimming should either carry some object in both hands or else clasp them on his chest. This form of practice will help to improve the leg stroke, which is of paramount importance in this method of swimming.

Sculling.—This term is given to an easy method of swimming on the back which requires very little effort to propel the body through the water. The swimmer assumes the position for floating without motion (Fig. 89) with the arms extended along the sides of the body, palms downward, fingers together and slightly inclined towards the surface. The arms are not moved at the shoulder-joints, but their strokes are made with the hands, which are moved from the elbows and wrists in a series of semicircles about twelve inches outward and inward in relation to the body, and about three or four inches below the surface.

The power of the strokes depends on the hands and the forearms from the elbows to the wrists. As the hands are moved outward they must cut the water sideways with the palms turned downward to lessen resistance, and as they move inward the sides must be turned downward and the stroke made with the palm and the inside of the forearm, so as to propel the body through the water head foremost. If the direction of the semi-circles is reversed and the strokes modified accordingly, the body will be propelled feet foremost.

Swimming on the Side (Overarm or Side Stroke).—In this method of swimming, the body is turned either on the right or left side. To begin the stroke, the legs are moved as in commencing to walk or run—namely, the

upper leg is moved forward and the lower one, from the knee downward, is drawn back. After being fully stretched in this position as wide apart as is possible the legs are brought forcibly together into line with the body. At the moment when the legs are wide apart



Fig. 80.—Side Stroke.
Northern method.



FIG. 81.—SIDE STROKE.
Northern method.

the lower arm is carried forward through the water beyond the head (Fig. 80). The upper arm is carried forward above the surface of the water to a position slightly beyond the head at the moment the legs are being brought together (Fig. 81). The pull of the lower arm through the water commences as the legs are being brought together, and that of the upper arm as they are being moved apart.



Fig. 82—Side Stroke, Southern method.

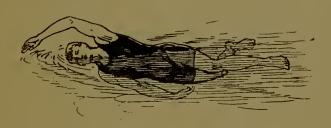


Fig. 83.—Side Stroke. Southern method.



FIG 84.—CRAWL STROKE.

In this stroke, which is known as the "Northern," what is known as the dead point of the stroke is avoided, giving a greater propelling force than another method, which is referred to as the "Southern" (Figs. 82 and 83). The dead point in this stroke occurs when the limbs reach the

position shown in Fig. 82.

Pupils may practise the leg movements of the side stroke in the following manner, which may only be possible if a swimming-bath is available for instruction. Having grasped the support at the side of the bath and got into position exactly in the same manner as for practising the leg movements of the breast stroke, they must then open the legs wide apart by moving the upper one forward without bending the knee, and the lower one backward with the knee bent so as to raise the foot well up towards the body. Then they must bring the legs together with as much force as possible by moving the upper one back into line with the body and straightening the lower one at the same moment with a strong kick. In bringing the legs together, the feet must be carried across each other for about six inches at the end of the stroke.

The most effective part of this stroke, in the case of the upper leg, depends on the use of the shin and instep of the foot when moved in one direction, and in the case of the lower leg it depends on the calf and sole of the foot when moved in the opposite direction. The leg movements combine to create a swirl and propel the body forward in the water.

The hands, in their alternate actions of stretching forward and pulling back, move in complete ovals. Both arms finish their effective strokes in line with the hip. The lower arm is moved to its position beyond the head through the water with the hand turned outward and the palm downward to minimise resistance, while the upper arm is moved beyond the head through the air. Neither

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arm must at any time be fully extended, as the force of

the stroke is increased by keeping them bent.

The upper arm, in commencing its stroke, must strike the water with the palm of the hand facing outward and thumb downward. Its effective pull through the water commences opposite the forehead, and as the hand sweeps past the chest the arm must gradually be straightened until the fingers are in line with the hips, at the end of the stroke. The effective pull of the lower arm commences when it is returned to the hips from beyond the

head, the palm of the hand being turned inward.

Crawl Stroke.—This method of swimming is distinct from all others. Its principal drawbacks are the difficulty of breathing, which the swimmer has to turn on his back to do, and the amount of exertion required to support and propel the body owing to the fact that the limbs are all at one time or another out of the water. The swimmer lies almost flat upon his breast in the water, the legs from the knee to the hip being kept in line with the body, while each foot is lifted alternately about twelve inches above the surface and returned so as to strike the water with the instep. At no time are the legs separated or the knees drawn up towards the body.

The arms in the crawl stroke are also moved alternately, being carried forward through the air and dipped into the water with the elbows bent just beyond the head. They are then drawn smartly back through the water, being gradually straightened till they are almost fully extended along the sides of the body at the end of the stroke, when they are again carried back beyond the head through the air. The right arm is dipped into the water as the left foot strikes downward, and the left arm as the right

foot makes its stroke (Fig. 84).

To practise the crawl stroke pupils must get into position in the manner described for practising the leg stroke of the breast and side stroke, if facilities are available for doing so. They may, however, tie their knees together before entering the water. When the body is extended straight out on the surface they must move the feet up and down alternately in regular time, making the movements slowly at first, and then with increasing rapidity and force. The timing of the stroke is most important and should be regulated carefully in this practice, for speed in this kind of swimming depends upon the regularity and force with which the feet are moved.

CHAPTER VIII

Diving and Floating

The Value of Diving.—The art of diving is an essential part of instruction in swimming, and one with which every swimmer should be familiar. It will enable men to enter the water from a height in the quickest and most convenient manner, while it is of great importance in rescuing drowning persons, not only in regard to the saving of time in entering the water, but also because it will enable swimmers to find and rescue those who have sunk and do not reappear above the surface.

Instruction in Diving.—Instruction in diving should be carried out in a sufficient depth of water, and commence with the following practice. The pupil must stand erect with his legs together by the side of the water, preferably upon a diving base or board a little above its level. He should then stoop down until the body is bent nearly double, stretching out the arms in front of the head, with the hands together, palms downward and thumbs touching, sink the head between the arms and gradually fall over into the water (Fig. 85).

After this preliminary practice pupils must be taught to dive correctly. To do this they must stand as before, take a few short inspirations to clear and inflate the lungs for plunging, extend the arms in front of the body on a level with the shoulders, the palms and hands in position as before, to act as a cutwater, and dive into the water with a spring. As the dive is made the head must be

lowered between the arms—which, together with the hands, must be kept in the position just described—the body



Fig. 85.—Diving.

must be kept straight, with the legs, together in line with it, while the feet, which must be turned down until the

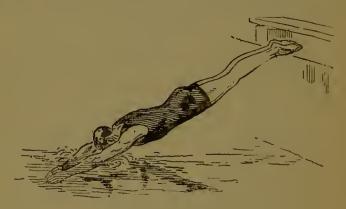


Fig. 86.—Diving.

insteps are nearly in line with the shins, will rise above the head as the body shoots forward and downward into the water (Fig. 86). Immediately on entering the water the hands should be turned upward, which will bring the body in a sharp curve to the surface.*

Diving from the Surface.—This extremely useful form



Fig. 87.—Diving from the Surface.

of diving needs plenty of practice before proficiency can be acquired. To practise it correctly the pupil must first swim a few yards on the surface with the breast stroke,

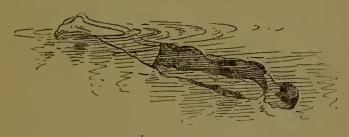


Fig. 88.—Diving from the Surface.

take a deep breath, depress the head, and look downward toward the water (Fig. 87). He should then dive head downward into the water, lifting the body at the hips,

^{*} The Standard Dive.—It may be noted that the rules as to position and movements contained in this paragraph are those for the standard dive in competitions.

and making a powerful stroke with the legs and a simultaneous upward stroke with the hands which brings them

to the sides of the body (Fig. 88).

The impetus of these movements should suffice to take a swimmer to the bottom in ten feet of water. Once under the surface he must keep the head depressed and may easily swim about in any direction by means of the breast stroke. When searching for objects at the bottom of the water, to recover which the dive has been taken, the best and surest method of finding them is to swim round in circles on the breast.

When the swimmer wishes to rise to the surface he should throw his head back, look upward, and swim vigorously toward the surface. If he is near the bottom he may use his feet to push off before swimming upward, but in any case he will rise to the surface quickly. Immediately on reaching the surface the swimmer should fill his lungs with fresh air.

Floating.—Floating is not a difficult accomplishment, and all swimmers should acquire it. The power of floating without motion may be of the greatest value for resting to recuperate or husband strength when swimmers have to remain in the water for a protracted or uncertain period

of time.

Floating without Motion.—In learning to float without motion the pupil must take a deep breath, completely filling his lungs with air, then turn on his back in the water, stretch his legs wide apart, and extend his arms above his head in a line with the body, with the palms turned upward (Fig. 89). He should throw as much weight as possible above his head and lie perfectly still, taking care not to hollow the back or raise the stomach above water. He may sink for an instant after assuming this position, but if the breath is held, the lips will rise above the surface in a moment, allowing him to breathe

freely. When floating, only the face, chest, and toes should appear above the surface. If the feet have a tendency to sink, additional weight should be thrown above the head by turning the palms and head well back, which will have the effect of raising the feet.

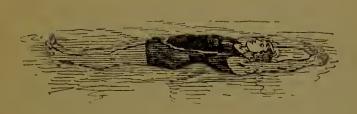


Fig. 89.—Floating without Motion.

The principal difficulty in floating consists in overcoming the tendency of the legs to sink. If after frequent trials pupils are unable to overcome it, their legs should be supported by the instructor or an assistant until they have learnt to balance the body on the surface. Another method of supporting the legs is to rest them on the steps or support at the side of the bath or bathing place until the body appears to float with the correct balance. The feet should then be removed gently from the support, care being taken not to cause them to drop in the water, otherwise the balance of the body will be lost and the legs may sink.

Treading Water.—Treading water is a term given to a method of floating upright in the water by means of leg strokes only. In commencing to practise it, swimmers should help themselves to float by using the hands as in sculling (see p. 137) until they can tread water without this aid, when the arms should either be folded across the

chest or kept extended straight from the shoulders on either side of the body at right angles to it with the palms of the hands downward.

In treading water the swimmer should take a deep breath and bring the body to an upright or perpendicular position in the water. The leg strokes must then be made in either of two ways. They may be moved alternately up and down by bending the knee in the manner of "marking time," the stroke being made by the downward push of the soles of the feet. As an alternative these downward strokes may be made by the closing kick of the leg stroke, as in swimming on the breast (see p. 127). In either case the body should remain practically stationary in the water, with the neck and head of the swimmer above the surface.

CHAPTER IX

Life-Saving (Rescue from Drowning)

No one should be content with learning to swim for the purpose of preserving his or her life alone—every one ought also to learn how to save others from drowning. Many a good swimmer has been drowned in attempting to save life because he did not know exactly how to take hold of a drowning person, how to free himself from his clutch, or how to bring him to land without undue exertion. The art of rescuing the drowning is not confined merely to the work of bringing persons out of the water. It also necessitates knowledge how to resuscitate the apparently drowned after they are brought to land. Many who have been taken from the water in an unconscious state have subsequently died because the rescuer did not know how to restore animation in them.

Once a swimmer has been trained in the work of rescuing the drowning he can undertake it free from danger to himself. He need have no fear of the drowning man's clutch, for he will know how to evade it. Even the relative size and strength of the rescuer and rescued are minor considerations, for life-saving is essentially a question of skill rather than strength. Young girls and boys who have been trained in the art have been able to save the lives of persons much older and bigger than themselves, as is proved by the following stimulating examples recorded by the Royal Humane Society:

Patrick Kitchener, aged thirteen, was playing on the

river bank at Putney when a child, about 100 yards away from him, lost his balance and fell into the water. Two men near at hand bravely jumped in to try to save him, but, being unable to swim, were powerless. Kitchener plunged in and succeeded in rescuing the child. Having done so he swam to the assistance of one of the men, whom he also succeeded in rescuing. Unfortunately the second man was drowned.

Another lad, John Driver, aged twelve, rescued a child five years old, who fell into the River Thames at Wandsworth Bridge. Driver swam fully clothed, seized the child as he was being carried under a barge, and with difficulty brought him safely to land across a distance of about 400 yards.

A schoolboy named Reginald Clowser, aged fourteen, jumped in, fully clothed, and rescued a boy from deep water in the Pond at Hampstead Heath. Though a number of men were fishing on the bank at the time none attempted to save the boy, probably because they could not swim.

These three instances are in no sense extraordinary. On the contrary, the newspapers are constantly recording similar acts of heroism. It may be noted that in the cases mentioned the rescuers had all been trained on the system advocated by the Royal Life-Saving Society, with which, as already stated, the training in this Manual is consistent.

Instruction in Release and Rescue.—Instructors should clearly explain and demonstrate the various actions of each method of release and rescue, and thoroughly train pupils in carrying them out correctly on land before they proceed to practise them in the water. The most effective way to do this is to divide the pupils into pairs. Those of each pair in turn should practise the different methods of release and rescue with the instructor personally, who will act alternately as rescuer and rescued. This system

has the advantage of securing the attention of the instructor for each pupil, and should be adopted whenever possible.

While the instructor is carrying out this work with one pupil, his comrade must watch his movements closely, paying careful attention to his remarks and advice. After both pupils have been taught in this practical manner, the instructor must make them practise the methods of release and rescue together, each in turn taking the place of rescuer and rescued, until they are thoroughly trained in carrying out the work correctly in every detail. Then the instructor should proceed to train them in exactly the same manner in the water. In commencing to practise the work of rescue in the water, a wooden dummy, roughly shaped to represent a man of average measurements may, if available, be used before pupils proceed to try to rescue each other.

Methods of Release.—A drowning person, if conscious and possessed of any degree of strength, will almost invariably attempt to clutch his rescuer directly he approaches within reach. This danger involves the life of the rescuer as well as that of the person he is trying to save. Pupils must, therefore, from the first be warned against it, and taught how to avoid it. This should be done, if possible, by keeping out of reach of the drowning person and swimming round him so as to take hold of him from behind. It may, however, be impossible for the rescuer to prevent himself being seized, or it may be necessary for him to run this risk owing to the fact that every instant of delay in the work of rescue is dangerous. For this reason pupils at the first stage of their instruction in life-saving must be taught the various methods of release from the clutch of drowning persons.

There are three well-known methods which are described in the following paragraphs and illustrated on

pp. 153 and 155. They apply respectively to release from a grip on the wrists, round the neck, and round the body—in the last case the arms may also be involved and held to the sides of the body. Pupils must be trained thoroughly in all three methods of release, the principles of which they must use their judgment in applying to variations of the three most common holds which are encountered in the work of rescue. In practising each method, pupils should be taught always to try to turn the drowning person round in releasing themselves, so that he may be in a favourable position for rescue—namely, with his back to the rescuer.

Besides practising them in the actions necessary to effect release from various holds, instructors must develop in their pupils mental and other qualities in connection with this work, without which its mechanical actions are comparatively useless. That is to say, they must train pupils to carry out the work with self-control, coolness, and the power of thinking and acting quickly. Every action made to effect release must have a definite object and be carried out without hesitation and with rapidity as well as strength. These qualities are essential for success in the whole work of rescue as well as in its first stage.

First Method.—If clutched by the wrists the rescuer must turn both arms simultaneously so as to press the wrists suddenly with all his strength against the drowning person's thumbs in a manner which will dislocate them if he does not let go. This he will invariably be forced to do (Fig. 90).

Second Method.—If clutched round the neck the rescuer must take a deep breath, lean well over the drowning person, put one arm round him with the hand on the small of his back, raise the other arm to the level of the shoulder, passing it over the drowning person's arms, and



Fig. 91.—Release. Second method.

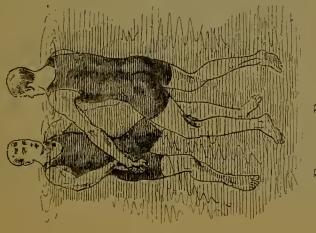


Fig. 90.—Release.

pinch his nostrils tight between the fingers of the hand, while with the palm against his chin the rescuer pushes him backward under the surface with all his strength. As the drowning person is unable to breathe through the nose he must open his mouth to do so, and, being under the surface, will commence to swallow water, with the result that he will begin to choke. This, if the force of the push does not break his clutch, will weaken it and enable the rescuer to free himself and proceed with his

work unhampered (Fig. 91).

Third Method.—If clutched round the body, his arms being left free, the rescuer must lean well over the drowning person, take a deep breath, place one hand against his shoulder and the palm of the other against his chin, with his nostrils pinched between the fingers, as in the second method. He must at the same time bring one knee up against the lower part of the drowning person's chest and then suddenly push him away with both arms while he straightens the legs and throws the whole weight of the body backward. The effect of these movements, if made with force, should suffice to break the clutch of the drowning person, which will be weakened, owing to choking and causes already described. If the arms are included in the clutch and held to the sides of the body the rescuer must instantly release them by bending them inward at the elbow and forcing them upward against the front of the drowning person's body. Having regained the use of his arms, he must, without delay, proceed to release himself according to the above directions (Fig. 92).

Methods of Rescue.—The general belief that a drowning person must rise three times before he finally sinks is unfounded. Whether he rises at all, or how often he does so, depends entirely upon circumstances. No time should be lost in going to the assistance of a drowning

person, as he may sink at any moment. The work of rescue may then necessitate a search for him under water, especially if in sinking he has become entangled in weeds, and in such cases the task of saving him may prove dangerous and difficult.

A clue to his position under the surface may be afforded



Fig. 92.—Release.
Third method.

by air-bubbles, which will, in still water, mark a spot directly above the sunken man, and serve in running water, to indicate his position more or less approximately. After a man has sunk, his body, unless obstructed in any way, will be carried in the direction of the current to an extent

which will depend upon its strength, and this fact must be taken into account in searching for him. If the rescuer has to leap into the water from a height such as a bridge or pier, or when the depth of the water is uncertain, he must not dive, but jump, into the water feet first. Should he encounter weeds he must swim with the current, if possible, as the danger of becoming entangled in them is very great in swimming through them against the current. Whenever he can, the rescuer should divest himself of heavy clothing and boots before entering the water.

Rescuers must use their judgment as to the exact method they will adopt in saving life, according to the circumstances of each case. Whatever method is adopted, they must always be careful to husband their strength as much as possible, and avoid wasting it by trying to make headway unnecessarily or hopelessly against adverse tides or currents. Under such conditions they should swim with the current and make gradually for the shore, or try to keep afloat until a boat or aid in some other form arrives. It is always of vital importance that the face of the drowning person should be kept above the surface while being carried through the water, and that the rescuer should swim smoothly, avoiding jerking or tugging at his burden.

First Method.—If the drowning person is unconscious or passive, and does not struggle, the rescuer must turn him on his back and clasp his head on either side by placing the hands on his ears. He must then assume the position for swimming on the back at the same time lifting the drowning person's head upward to clear the surface, and so that it lies above the stomach of the rescuer, who, as he swims on his back with a wide and open leg stroke, lies in the water to a great extent underneath his burden (Fig. 93).

Second Method.—If the drowning person struggles and

is difficult to manage, the rescuer must watch his opportunity, seize and turn him on his back, then grasp his arms firmly above his elbows, draw them upward and outward at right angles to his body and commence to swim as in the first method. While the drowning person is held in this position he will not be able to turn round and recommence struggling, for the rescuer will have him under control (Fig. 94).



Fig. 93.—Rescue. First method.

Third Method.—If in attempting the second method the rescuer finds that it is difficult to grasp the drowning person's arms in the manner described, he must slip the hands under his arm-pits and grasp his chest or arms high up on the shoulder. If he grasps the drowning person's arms in this way he must raise them at right angles to his body. Having secured this hold, the rescuer must swim as in the first method (Fig. 95).

Fourth Method.—If the drowning person does not lose control of himself and is able to help the rescuer by understanding and obeying his orders, he may be directed and

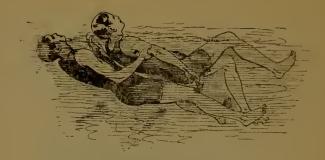


Fig. 94.—Rescue. Second method.



Fig. 95.—Rescue.
Third method.



Fig. 96.—Rescue. Fourth method,

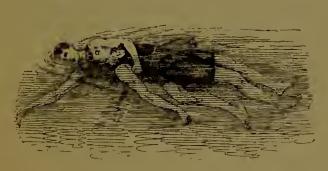


Fig. 97.—Rescue. Fifth method.

assisted to place his hands on the rescuer's shoulders close to the neck, keeping his arms stretched out straight, and with the help of this support to lie on his back as still as possible. The rescuer will then assume the position for swimming on the breast, being to a great extent above the drowning person in the water, with his arms as well as his legs free for swimming, while he propels his burden before him to safety (Fig. 96). This method of rescue should be employed in the case of swimmers attacked by cramp or exhausted, provided that they do not struggle and are able to obey the necessary directions. It is also the least exhausting method for the rescuer, and persons may be carried a considerable distance by means of it without distressing the swimmer.

Fifth Method.—This method enables the rescuer to employ the side stroke, when practicable, in saving life. He must seize the drowning person round the chest by passing one arm under one of his arms, or over the shoulder across the chest, so as to grasp him under the pit of the other arm by his clothing. He can then swim on the side with one arm free for the stroke, while the other supports his burden (Fig. 97).

CHAPTER X.

Resuscitation

The free access of fresh air to the lungs is absolutely necessary for life. When a person commences to drown, his struggles and efforts to breathe cause him to draw water into his windpipe and swallow a quantity. In consequence he chokes and coughs, which expels air from his lungs, together with the water in his windpipe, but his continued efforts to breathe while sinking result in water being drawn right into the lungs and in more being swallowed—a process the repetition of which gradually displaces air in both organs and fills them with water. This, in itself, increases the weight of the body in a manner sufficient to cause it to sink.

Meanwhile the interruption of a free supply of air begins to decrease the oxygen in the lungs, while the poisonous carbonic acid gas accumulates in them. Consequently the lungs cease to a great extent to perform their function of purifying the blood, and the heart pumps impure blood into the system, which quickly causes unconsciousness. If the free access of fresh air to the lungs is not soon secured, death must ensue through suffocation.

Happily, a certain amount of air generally remains imprisoned in the innumerable cells of the water-logged lungs, and suffices to support life for a while, even when a person is apparently drowned and lifeless. The one hope of saving life in such cases lies in giving effect to measures for restoring animation at the first opportunity

6

after leaving the water without a single instant of delay. These measures, besides being promptly taken, must be carried out cautiously and with the utmost perseverance. They must even be continued with energy for some time after all hope is lost, for, in many cases, animation has been restored after long hours of unceasing and seemingly hopeless work. As an invariable rule the nearest doctor must be summoned as quickly as possible.

Methods of Resuscitation.—Until the year 1907 three methods of restoring natural respiration were commonly practised. These were the "Silvester," the "Howard," and the "Marshall Hall." All these methods necessitated special precautions to keep the tongue drawn forward, because the patient in each case was first placed upon his back. This was a disadvantage which became accentuated when the subject was in an asphyxiated condition due to drowning. The position on the back hindered the escape from the air-passages of water together with mucus and froth churned up by air and water passing to and fro, which blocked the bronchial tubes.

In the Howard method a further danger was involved by the forcible pressure applied to the lower part of the chest, as this might result in rupturing the liver, which was congested and swollen by drowning—a condition complicated by the distension of the heart due to the same cause.

The Schafer method, which is laid down in this Manual, possesses none of the disadvantages associated with the others mentioned, as the patient is placed face downward. It is safe, efficient, and less complicated than other methods, and involves a minimum amount of labour on the part of the operator.

The Schafer Method.—The operator must place the patient on a dry surface, which may be the ground, floor, or any convenient piece of furniture, according to cir-

cumstances. If he is still breathing, it may be unnecessary to induce respiration by artificial means. In this case the operator should place the patient full-length upon his side and assist natural respiration by tickling the nose with anything available, or if possible by applying irritants such as smelling-salts, pepper, or snuff to the nostrils. If the patient has ceased to breathe, the operator should

If the patient has ceased to breathe, the operator should place him full-length face downward, with his legs together in line with the body, and his head resting on one side, so that the passage of air through the mouth and nose is unrestricted. The head may be pillowed on the arms, which should be carried forward, and bent in at the elbows across and under the head. The operator must on no account stop to remove the patient's clothing, but proceed immediately to induce respiration by artificial means. In doing this he must be most careful to avoid handling the patient roughly in any way, and abstain from twisting and bending the limbs. A mistake sometimes made by persons ignorant of the proper method of resuscitation consists in holding the patient up by the feet. In no circumstances should this ever be done.

Artificial Respiration.—To effect artificial respiration the operator must kneel astride or on one side of the patient's legs, facing his head. He must place the hands flat in the small of his back, with the thumbs parallel, pointing towards his head, about an inch apart, and the fingers spread out on each side of the body over the lowest ribs (Fig. 98). He must then lean forward, and, keeping the arms straight, steadily allow the weight of the body to fall over upon the hands, and so produce a firm downward pressure, which must not be violent. His object is to press downward towards the ground, in order to decrease the size of the cavity formed by the patient's chest (Fig. 99).

This downward pressure expels both air and water

from the patient's lungs. The operator should then swing backward, quickly relaxing the pressure, but without lifting his hands from the patient's body. This action will cause the ribs to spring back into their normal position, thus increasing the size of the chest cavity, and automatically drawing air into the lungs. This forward and backward movement on the part of the operator, resulting alternately in pressure and relaxation of pressure on the patient's body, should be repeated every four or five seconds, or twelve to fifteen times a minute without any marked pause between the movements.

It is obvious that this treatment produces an exchange of air in the lungs similar to that effected by natural respiration. Every time pressure is exerted, air is forced out of the lungs, and every time it is relaxed, fresh air is drawn into them. This process must be continued until the patient commences to breathe naturally. The operator must watch him very carefully for some time after natural respiration has commenced, as it sometimes fails, in which case the operator must recommence artificial respiration immediately, or the patient may die. No attempt must be made to remove the patient's clothing or give him restoratives by the mouth until he is breathing naturally and regularly.

Circulation and Warmth.—If the patient can be moved to a house directly he is taken out of the water, or if it is otherwise possible, circulation and warmth may be promoted in his system by other persons while the operator is engaged in the work of artificial respiration. Under such circumstances hot-water bottles or heated bricks may be applied to the patient's feet and the inside of his thighs without of course interrupting the work of artificial respiration either in order to undress him or by interfering

with the operator.

As soon as possible after the patient commences to



Fig. 98.—Resuscitation.

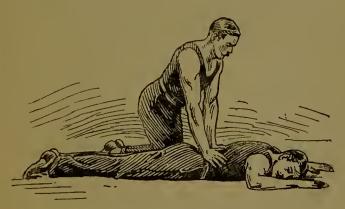


Fig. 99.—RESUSCITATION.

breathe naturally, he should be covered over with coats, rugs, blankets, or other available wraps, earried to the nearest house, and the work of promoting circulation and warmth carried out thoroughly at once. For this purpose the patient should be undressed quickly and laid face upward on his back between blankets which, if possible, should have been heated just previously. Hot flannels should then be applied to the pit of his stomach, and hotwater bottles, hot bricks, or hot flannels to the soles of his feet, his arm-pits, and between his thighs. The heat of the water bottles and bricks should be tested with the hand before application, to see that it is not too great, and these articles should in any case be covered with flannel or suitable cloth to prevent direct contact with the skin, which otherwise may be burned.

Meanwhile friction should be applied to the sides of the patient's body and the inside of his arms and legs, by rubbing them briskly with the hands or with flannels or towels which have first been heated. It is most important to remember that the direction in which the body and limbs should be rubbed must always be towards the heart, so as to assist the circulation by propelling the blood along the veins towards that organ. Friction in some cases may be continued with benefit after the patient has been dressed in dry clothing and put between blankets to rest. If he complains of difficulty in breathing, a hot linseed-meal poulties should be applied to his ehest.

When the patient has recovered sufficiently, a teaspoonful of warm water may be given to him, to see if he is able to swallow. If he ean do so, and does not feel dizzy, a very small quantity of wine, warm brandy and water, beef-tea, or eoffee may be given to him. The patient must be kept in bed and eneouraged to sleep, care being taken to watch him for some time to see that his breathing does not fail. Care must also be taken, if the patient is

carried indoors, to see that he has plenty of air. Throughout the whole process of resuscitation persons must on no account be permitted to crowd round or stand close enough to prevent the free circulation of air about the

patient.

Instruction in Resuscitation.—As in the case of instruction in swimming, small classes which permit the instructor to give a large amount of individual attention to each pupil are preferable for the training of boys to more or less automatic drills carried out by large classes. Pupils may be trained in the resuscitation of the apparently drowned by carrying out the actions necessary for the following duties:

1. Placing the patient in the proper position for expelling water from the lungs and for artificial respiration.

2. Inducing respiration artificially.

3. Placing the patient in the proper position for resuscitation and inducing circulation and warmth by friction applied to his legs, arms, and body.

These actions must all be carried out correctly according to the instructions laid down in this Manual.

The instructor should first explain carefully to pupils as much as it is necessary for them to know concerning the physiology of respiration, the circulation of the blood, and the causes of death by drowning and other forms of suffocation, which will be found in this chapter and the First Aid Manual of this scries. They should then be divided into pairs for practical instruction in the methods of resuscitation. Pupils should be made to represent the patient, and the instructor, as operator, should demonstrate to the class the whole process of resuscitation on the pupil's body.

After this demonstration one pupil of each pair should

represent the patient, while the other acts as the operator and carries out his duties under the guidance and supervision of the instructor. The pupils of each pair must in turn represent the operator and patient respectively, and the whole process of resuscitation must be practised in this way until each pupil shows that he possesses a thorough knowledge of its practical details.

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